W. B. Papageorge - B2SK

November 19, 1975

R. G. Potter
D. L. Sliney
J. C. Weber

PROPOSED OSHA STANDARD
CHLORODIPHENYL (54%) -
AROCLOR 1254

R. E. Bilger
J. T. Garrett
W. Hammann
R. A. Pohl

Attached are copies of proposed standards prepared by OSHA relating to exposures to Chlorodiphenyl. May I have your comments.

W. B. Papageorge

/pd

DSW 175032

290

STLCOPCB4049553

W. B. Papageorge - B2SK

November 18, 1975

CAUSTIC POTASH - TEXTILANA

R. Appel - 1650
H. C. Carder
J. C. Hume
R. Perry
J. F. Winkler

H. J. Horner - 1740

Please issue a special customer specification for Liquid Caustic Potash 45% for Textilana, Division of Henkel, Inc.

By copy of this memo I recommend to Jack Winkler that he inform Mr. Donald Stack that we have approved their proposal. A copy of the approved specification is attached.

W. B. Papageorge

/pd

DSW 175033

379

STLCOPCB4049554

W. B. Papageorge - B2SK

November 18, 1975

66° SULFURIC ACID
GEORGE MANN & CO.

L. D. Hatch - 1650
R. Perry
J. F. Thompson
J. F. Winkler

N. G. Hobbs - 1410
W. M. Mees - 1410

What is the status of your review of the George Mann specification forwarded to you on October 21?

W. B. Papageorge

/pd

DSW 175034

378

W. B. Papageorge - B2SK

November 18, 1975

PCBs - SPILL NOTIFICATION PLAN

T. H. Bottini
C. Paton
R. A. Pohl
E. M. Potter
D. L. Sliney

David Wood

Attached is a proposal from the EIA PCB Ad Hoc Committee entitled, "Spill Notification Plan for Polychlorinated Biphenyls."

Note that Monsanto is expected to pâay a key role in the event of spills involving PCBs.

Is this acceptable to the Business Group?

W. B. Papageorge

/pd

DSW 175035

377

November 18, 1975

Mr. Kent Gernander
64 East Fourth Street
Winona, Minnesota 55987

Dear Mr. Gernander:

Enclosed is the literature you requested. I hope you find it helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

HH
II
JJ
metcalf paper

DSW 175036

376

STLCOPCB4049557

November 18, 1975

Mr. Robert D. Rossi
Olmsted County Health Department
415 Fourth Street, S. E.
Rochester, Minnesota 55901

Dear Mr. Rossi:

In response to your request for an Aroclor closely resembling Aroclor 5442, none of the current Aroclors will do so because Aroclor 5442 is a solid at room temperatures.

I regret that I cannot be of service to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175037

395

STLCOPCB4049558

November 18, 1975

Dr. Richard M. Welch
Group Leader
Department of Medicinal Biochemistry
The Wellcome Research Laboratories
Burroughs Wellcome Co.
3030 Cornwallis Road
Research Triangle Park, North Carolina 27709

Dear Dr. Welch:

In response to your letter of October 31, I am enclosing a Sample Request Form. If you will complete and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175038

204

November 18, 1975

Mr. Kamal Rashid
College of Agriculture
Pennsylvania State Universtty
Pesticide Research Laboratory and
Graduate Study Center
University Park, Pennsylvania 16802

Dear Mr. Rashid:

In response to your letter of November 11, I am enclosing a Sample Request Form. If you will complete this and return to me, Ilwill have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175039

373

STLCOPCB4049560

November 18, 1975

Ms. Mary Thorpe
Purchasing
Bristol Laboratories
Building 28
Thompson Road
East Syracuse, New York 13057

Dear Ms. Thorpe:

Enclosed is the Sample Request Form which you requested from Monsanto. If you will complete and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1242, 1254 and 1016.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175040

272

STLCOPCB4049561

November 18, 1975

Dr. Mark D. Sobsey
ESE - School of Public Health
University of North Carolina
Chapel Hill, North Carolina 27514

Dear Dr. Sobsey:

Enclosed is the Sample Request Form which I offered to mail you. If you will complete this and return to me, I will Have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1242, 1254 and 1016.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:Pd

DSW 175041

371

STLCOPCB4049562

November 18, 1975

Mr. Thomas W. Ritchey
Principal Research Biologist
Lever Brothers Company
Research and Development Center
45 River Road
Edgewater, New Jersey 07020

Dear Mr. Ritchey:

In response to your letter of November 7, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175042

370

STLCOPCB4049563

November 18, 1975

Mr. D. R. Hanning
Eastman Kodak Company
Rochester, New York 14650

Dear Mr. Hanning:

In response to your Purchase Order No. 14 718-16861, I am enclosing a copy of the "Presentation to the Interdepartmental Task Force on PCBs."

I hope you find this helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175043

369

STLCOPCB4049564

November 18, 1975

Mr. Harold D. Hillman
Monterey Bay Unified
Air Pollution Control District
1270 Natividad Road
Salinas, California 93901

Dear Mr. Hillman:

In response to your letter of November 12, Monsanto has discontinued the manufacture of Aroclors 1260 and 5442. Our sample supply has been depleted; therefore I have none to share with you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175044

368

W. B. Papageorge - St. Louis - B2SK

November 18, 1975

PLANT REPORT
AROCLOR/BIPHENYL GROUP

R. Thomas - Newport

In the future please remove the names of J. R. Savage and myself from your distribution list for subject report, and add the names of R. A. Pohl and J. C. Weber.

W. B. Papageorge

/pd

DSW 175045

369

STLCOPCB4049566

November 17, 1975

Mr. Ron Cain
Purchasing Agent
Thermoset Plastics, Inc.
5101 East 65th Street
Indianapolis, Indiana 46220

Dear Mr. Cain:

In response to your letter of November 3, I wish to inform you that PC 1244 and PC 1344 are not hazardous materials, according to the D.O.T. regulations set forth in CFR 49.

You will be hearing from another department with relation to ModEpox.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175046

366

W. B. Papageorge - B2SK

November 17, 1975

B. D. Heckenberg
D. K. Tippey - Nitro

PC 1244 -
VISCOSITY SPECIFICATIONS

R. W. Radue - Q2C

Attached is a request from Mobil Oil that we redetermine kinematic viscosity at 40°C and 100°C for PC 1244. Will you please arrange to have this information determined.

W. B. Papageorge

/pd

DSW 175047

365

STLCOPCB4049568

November 17, 1975

Mr. Joseph Stites
Air Correction Division
UOP, Inc.
999 Touhy Avenue
Des Plaines, Illinois 60018

Dear Mr. Stites:

Enclosed are two bulletins referring to the proper handling of askarels. Labeling instructions can be found on page 16 of the ANSI guideline and on page 6 of the Monsanto bulletin.

I hope this information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

BB
LL

DSW 175048

364

STLCOPCB4049569

November 14, 1975

Dr. Baskind
Industrial Biochemical Laboratories
Northbrook Illinois

Dear Dr. Baskind:

I have been informed of your request to Mr. David H. Bechtold for a sample of Aroclor 1254. I am enclosing a Sample Request Form. If you will complete this and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

cc: Mr. David Bechtold/Chicago

bcc: Dr. C. Paton

DSW 175049

363

STLCOPCB4049570

November 14, 1975

Dr. Gabriel Lapidus
Department of Environmental Services
Bureau of Wastewater Treatment
5000 Overlook Ave., S. W.
Washington, D. C. 20032

Dear Dr. Lapidus:

In response to your letter of November 6, I am enclosing some literature on polychlorinated biphenyls which I hope you find helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

ASTM D3304

EE

FF

GG

HH

II

JJ

KK

E

T

J

DSW 175050

Aroclor 1254 Specs.

362

STLCOPCB4049571

November 14, 1975

Mrs. Hazel M. Graham
Library Clerk
Health Services Division
Community Pesticide Study Project
P. O. Box 190
Wenatchee, Washington 98801

Dear Mrs. Graham:

In response to your letter of October 15, I am enclosing the American Society for Testing and Materials' method for analysis of environmental materials for polychlorinated biphenyls. This is the same as the Monsanto methodology you requested.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

ASTM D3304-74

DSW 175051

361

STLCOPCB4049572

November 12, 1975

Mr. Charles Bagley
Florida Power Corporation
P. O. Box 368
Intercession City, Florida 33848

Dear Mr. Bagley:

In response to your letter of October 24 addressed to Mr. Ralph A. Luebke, I am enclosing a Material Safety Data Sheet for Skylube 450. I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

cc: Mr. H. L. Allen
Florida Power Corporation
P. O. Box 14042
St. Petersburg, Florida 33733

bcc: J. C. Weber

DSW 175052

360

STLCOPCB4049573

November 12, 1975

Mr. E. H. Reynolds
General Manager
BICC Central Research
and Engineering Division
28 Wood Lane
London W12, England

Dear Mr. Reynolds:

Dr. Ralph Munch informed me of your request for literature regarding polychlorinated biphenyls. I am enclosing material which I hope you find helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

cc: Dr. Ralph Munch

Dr. Thomas Dakin
Westinghouse Research & Development
Beulah Road
Pittsburgh, Pennsylvania 15235

Goldstein, et al, Toxic. & Applied Pharm., 32, 461-73, 1975

EIA Position Paper "Identification of Chlorinated Dibenzofurans in American PCBs"

M JJ

X Metcalf paper

HH "Tissue Residues" paper by Haley

II J Burse, Archives of Env. Health

E Dec., 1974, Vol. 29, No. 6, p. 301-

DSW 175053

-9

STLCOPCB4049574

W. B. Papageorge - B2SK

November 12, 1975

BENZYL CHLORIDE
MILES LABORATORIES

H. C. Carder
P. R. Parker - Del. River
M. Terpstra
J. B. Willmore - Del. River

J. F. Winkler

Will you please arrange to have the attached forwarded to Mr. Robert L. Dion, Miles Laboratories.

W. B. Papageorge

/pd

DSW 175054

358

November 12, 1975

Mr. William A. Gant
General Electric Company
100 Woodlawn Avenue
Building 11 - Room 204
Pittsfield, Massachusetts 01201

Dear Mr. Gant:

Mr. E. P. Wheeler informed me of your request for information relating to the safe handling of PCBs.

I have enclosed copies of Monsanto's askarel guide and the ANSI C107 guidelines for askarels. Each of these bulletins contains sections pertaining to this subject.

I hppe this information is useful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

cc: E. P. Wheeler

DSW 175055

257

W. B. Papageorge - B2SK

November 10, 1975 D. Wood

PCB CONFERENCE

D. R. Bishop
W. C. Hammann/R. H. Munch
G. J. Levinskas
C. Paton
R. G. Potter
W. W. Withers

Attached is a copy of the paper to be presented at the Chicago PCB Conference by David Wood. Please review and forward your approval or comments to me. We need final approval by 9:00 a.m. Thursday, November 13 at the latest.

W. B. Papageorge

/pd

Same letter sent for Nieuwe

DSW 175056

256

STLCOPCB4049577

November 10, 1975

Mr. Blake Biles
Office of Enforcement
United States Environmental
Protection Agency
Waterside Mall
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Biles:

As discussed Friday during our telephone conversation, I am finding the mechanics of assembling the information for responding to the questionnaire attached to Mr. Stanley W. Legro's letter of October 17 to be very time consuming. As you know I was not able to meet the 14-day requirement for supplying recent information.

At your request I have attempted to predict the dates when I will be able to forward meaningful responsive information. The best estimate I can reach at this time is that I may be able to supply the requested information by December 15. It is my personal belief that if the information is supplied in one report, it would give a more complete description of the available PCB - PCT information.

One of the principal reasons for the delay is that polychlorinated terphenyl (PCT) information is requested. Since Monsanto terminated the manufacture and sale of these materials in 1972 and since no environmental effects have been reported, I suggest you may consider deleting the PCT request at this time.

DSW 175057

355

As you suggested, it is possible that some of the available PCB information could be forwarded before the final report is submitted. Since much of the information I have reviewed to date consists of many interrelated parts, I would be concerned that the submission of partial information may lead to misunderstandings, or more likely, create the need for time consuming explanations which may defeat the purpose and still prolong the completion of the report.

Your favorable consideration of a time extension would be sincerely appreciated.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

cc: Mr. Mike Sanderson
Enforcement Division
Environmental Protection Agency
1735 Baltimore
Kansas City, Missouri 64108

bcc: W. Withers

DSW 175058

W. B. Papageorge - B2SK

November 10, 1975

K. W. Easley
R. G. Potter

PCB DISCUSSIONS

Dr. J. Calandra - Industrial Biotest Laboratories
Dr. G. Roush, Jr.
J. C. Weber

The itinerary for our PCB discussions with governmental agencies is as follows:

Thursday, November 13

Agency - NIOSH
Time - 9:30 a.m.
Place - Room 3-30
12420 Parklawn Drive
Rockville, Maryland

Government representatives:

Dr. John Finklea - Director, NIOSH
Dr. Renate Kimbrough - CDC
Dr. Richard A. Rhoden - Criteria Documents
Dr. Roscoe Moore - Editor, "Alert" Bulletin
Ms. Pat Foley - Industrial Relations
Dr. David P. Brown - Epidemiologist
Dr. Fairchilds - Director, Cincinnati Laboratory

Agency - CEQ
Time - 2:00 p.m.
Place - Room 5025
New Executive Office Building
17th and Pennsylvania
Washington, D. C.

Government Representatives:

Dr. Warren Muir - CEQ
Dr. Edward Burger - NSF

Friday, November 14

Agencies - NCI, NIEHS
Time - 9:30 a.m.
Place - Room 11 A 05
Building 31, NIH
Bethesda, Maryland

DSW 175059

354

Government representatives:

Dr. Herman Kraybill - Toxicologist
Dr. Peters - Epidemiologist
Dr. Hans Falk
Dr. John Moore

Agency - FDA
Time - 11:00 a.m.
Place - Room 2025
FOB #8
200 "C" Street, S. W.
Washington, D. C.

Government representatives:

Dr. A. Kolby - Bureau of Foods
Dr. A. Shapiro - Toxicologist
- Attorney

Agency - EPA
Time - 3:00 p.m.
Place - Room 908
West Tower
Waterside Mall
401 "M" Street, S. W.
Washington, D. C.

Government representatives:

Dr. John Buckley - Consultant
Dr. Leonard J. Guarraia - Criteria
Dr. Kenneth M. Mackenthun - Criteria
Dr. Arthur J. Pallotta - Toxicologist
Dr. Lawrence A. Plumlee - M. D.
Dr. Roy Albert - Health Effects

W. B. Papageorge

/pd

DSW 175060

254

STLCOPCB4049581

November 6, 1975

Mr. Thomas Kopp
Environmental Protection Agency
East Tower - Waterside Mall
401 M Street, S. W.
Washington, D. C. 20460

Dear Tom:

Enclosed is a translation of the recently published French regulation relating to the use of PCBs.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175061

353

STLCOPCB4049582

W. B. Papageorge - B2SK

November 6, 1975

PCBs - ENVIRONGENICS

W. C. Hammann

Attached is a report which we received from Chemico (Envirogenics Systems) about a year ago.

As discussed, this is the process that General Electric and EPA wish to review on November 17.

W. B. Papageorge

/pd

DSW 175062

352

STLCOPCB4049583

November 6, 1975

Mr. John A. Francis
Plant Engineering Department
Nashville Glass Plant
Ford Motor Company
P.O. Box 1355
Nashville, Tennessee 37202

Dear Mr. Francis:

Enclosed are the askarel bulletin and ANSI Guidelines which I promised to mail you.

I hope you find the information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

BB
LL

DSW 175063

351

STLCOPCB4049584

November 6, 1975

Dr. J. H. Johnson
1819 West Pershing
Central Regional Laboratory
U. S. Environmental Protection Agency
Chicago, Illinois 60609

Dear Dr. Johnson:

Enclosed is the material I offered to mail you. I hope you find it helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

FF
EE
GG
KK

DSW 175064

350

STLCOPCB4049585

W. B. Papageorge - B2SK

November 6, 1975

PCBs - HOUSTON RESEARCH, INC.

C. Paton/D. Wood
R. A. Pohl
R. G. Potter
J. C. Weber

Dr. W. C. Hammann - B3SA

Attached is a proposal from Houston Research, Inc. that Monsanto support the development of a process for the destruction of polychlorinated biphenyls (PCBs) in dilute water solutions **using ozone with ultraviolet light.**

I understand from personal discussions with EPA representatives that this approach has been reviewed by the EPA and it was concluded that it was impractical. I cannot determine what the criteria for practicality are.

I also note the reference to 500 ppb of PCB in water. This concentration is about 10 times the solubility of PCBs in water and would reflect the presence of sediment, emulsion or a two-phase system. The EPA is currently considering the establishment of an effluent standard of one part per trillion. If this standard is promulgated, the attainment of concentrations in the part per billion range would not be adequate.

I suggest someone review this proposal and respond to Mr. Legan.

W. B. Papageorge

/pd

DSW 175065

349

W. B. Papageorge - B2SK

November 6, 1975

PCB CONFERENCE

D. R. Bishop
T. H. Bottini
C. Paton
R. G. Potter
G. Roush, Jr.
J. C. Weber
W. W. Withers
D. Wood

During our review on November 3 of the status of our preparations for the Chicago PCB Conference, the following actions were developed:

1) Dr. G. Roush will obtain copies of the prepared statement to be used by Dr. Joseph Calandra. Dr. Roush will also have prepared statements which refer to Dr. Pour's comments relating to the Industrial Bio-test Laboratories' test results and the results of epidemiological studies of our employees. These prepared statements will be available by November 10.

2) Jim Mieure and David Wood will submit the completed drafts of their presentations by November 10 for approval by the Business Group and Legal Department.

3) Dan Bishop will coordinate the preparation of slides from the drafts submitted on November 10.

4) Dan Bishop and Dr. G. Roush will prepare a statement responding to a question which may be raised relating to our epidemiological study.

5) Dan Bishop is reviewing the October, 1974 Monsanto statement relating to marketing and control of PCBs for appropriate revisions. The revised draft will be available as a potential handout at the conference.

6) It was decided that Dan Bishop, J. P. Mieure, W. B. Papageorge, Dr. G. Roush and David Wood will register as Monsanto representatives.

W. B. Papageorge

/pd

DSW 175066

348

W. B. Papageorge - B2SK

November 5, 1975

G. F. Fague
R. E. Hatton

COMPOSITION OF MCS 1583,
MCS 1692 and MCS 1713

F. R. Johannsen

Attached is the composition of the reference MCS products which you requested.

W. B. Papageorge

/pd

DSW 175067

349

STLCOPCB4049588

November 5, 1975

Mr. David McCollum
Sola Basic Industries
1717 Bussie
Elk Grove Village, Illinois 60007

Dear Mr. McCollum:

Enclosed are the askarel handling and disposal guides which I promised to mail you.

I hope you find the information useful. If we can be of further service please let us know.

Sincerely,

Peggy Dean, Sec'y to

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

BB
LL

DSW 175068

346

STLCOPCB4049589

November 5, 1975

Dr. Walter Brooks
The Kendall Company
Walpole, Massachusetts 02081

Dear Dr. Brooks:

Enclosed are Monsanto's Product Specification and test methods for Sulfuric Acid 66° Baume, which you requested from our New York office.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

cc: Mr. William T. Sorensen
The Kendall Company

Ms. Terry Finan/New York

DSW 175069

345

STLCOPCB4049590

W. B. Papageorge - B2SK

November 5, 1975

ELI LILLY PCl_3 SPECIFICATIONS

Memo HJH to WBP, 11/3/75

B. D. Heckenberg - B3NC

H. C. Carder
J. R. Kuster - 1740
H. J. Horner - 1740
A. E. Leisy - 1740
R. Perry

Will you please have someone contact Eli Lilly and obtain their definition of what is meant by "free phosphorus: none."

As indicated in Hap Horner's memo, our specification calls for a maximum of 20 ppm. Is this low enough to qualify for "none?"

W. B. Papageorge

/pd

DSW 175070

344

November 5, 1975

Mr. H. D. Hillman
Monterey Bay Unified Air
Pollution Control District
1270 Natividad Road
Salinas, California 93901

Dear Mr. Hillman:

In response to your letter dated October 21, I wish to inform you that due to environmental considerations Monsanto has discontinued the manufacture and sales of many Aroclors. Currently Aroclors 1016, 1221, 1242 and 1254 are sold only to the electrical industry for use in closed systems as a dielectric fluid in transformers and capacitors.

Properties of these materials are attached. These materials range in price from 40¢ to 50¢ per pound, dependent on type and quantities purchased.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

1016 properties
1242 - 1016 Comparison

T

DSW 175071

343

STLCOPCB4049592

November 5, 1975

Dr. Leonard Schiff
Life Science Research Division
IIT Research Institute
10 West 35th Street
Chicago, Illinois 60616

312-567-4867

Dear Dr. Schiff:

Enclosed is the Sample Request Form I offered to mail you. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1016, 1221, 1242 and 1254.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175072

342

STLCOPCB4049593

November 5, 1975

Dr. D. H. Lee
New England Nuclear Corporation
549 Albany Street
Boston, Massachusetts 02118

Dear Dr. Lee:

Enclosed is the Sample Request Form I offered to mail you. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1016, 1221, 1242 and 1254.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175073

241

STLCOPCB4049594

November 5, 1975

Dr. J. F. Thompson, Chief
Quality Assurance Section (MD-69)
Analytical Chemistry Branch
United States Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Dear Dr. Thompson:

Attached is the toxicity information for Aroclor 1016 which I offered to send to you in my letter dated September 4.

I hope this completes the information which you requested on August 27.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Process Chemicals Division

WBP:pd

DSW 175074

340

STLCOPCB4049595

W. B. Papageorge - St. Louis - B2SK

November 5, 1975

J. Fantl - Bircham Bend
E. Lavin - Bircham Bend
I. Serlin - Bircham Bend
W. K. Wilson

Tetrathal

Memo AHM to ODG, 10/22/75

A. H. Markhart - Bircham Bend

In response to the reference memo, I am enclosing a Toxicity and Handling statement on Tetrathal. I hope you find this helpful.

W. B. Papageorge

/pd

DSW 175075

339

W. B. Papageorge - B2SK

November 4, 1975

POSITION PAPER ON PCBs

R. G. Potter

Attached are my comments relating to items to be covered in a proposed PCB position paper.

These comments represent first thoughts on each item and certainly could use further review and elaboration. I hope that when combined with comments you are receiving from others that a clearer picture emerges.

We can discuss at your convenience.

W. B. Papageorge

/pd

Attachment

DSW 175076

338

COMMENTS FOR POSITION PAPER ON PCBs

1. Problem

The continued presence of PCBs in the environment and the recent reports of previously unobserved toxicity effects in test animals, in combination with the publicity fostered by the EPA in their deliberate use of PCBs as an outstanding example of the need for a strong Toxic Substances Control Act, have resulted in a situation which threatens the continued acceptance of PCBs as dielectric fluids and, more importantly, could have an adverse impact on Monsanto Company's reputation as a responsible corporation.

2. Impact on Major Customers

Lacking a source of domestic PCBs, customers could resort to imports. An extreme alternate, which is not highly probable, is the manufacture of PCBs by one of our larger customers, for example, General Electric, until a more attractive alternative fluid is developed.

Capacitor manufacturers could forego fire resistance and use one of several fluids now available (e.g. phthalate esters, mineral base oils, Monsanto's MCS 1238, etc.)

Transformer manufacturers could relax fire resistance considerations and substitute mineral oil or high flash point synthetics (silicones). Some installations could be designed to accommodate gas (dry) type units. Unavailability of a fire resistant alternative would require changes in design of installations, negotiations with insurance underwriters, changes in community building codes and communication of these changes with involved engineers, architects and their associations.

3. Estimate of Alternatives open to Monsanto

Termination of production and sales of PCBs immediately would be considered irresponsible because it would result in serious disruptions in our nation's power distribution system which would have complex retrofitting and maintenance problems. New construction would be brought to a standstill until building codes could be altered to permit the use of non-fire resistance electrical apparatus.

4. Phase out offers the more attractive alternative. Enough time must be available to permit redesign of transformers and capacitors as well as redesign of the installation techniques. Time will also be required to devise new methods for the

DSW 175077

maintenance of existing units and to modify existing regulations and codes which currently mandate fire-resistant fluids.

It appears that a two-year phase out period would be required. In my opinion any replacement product sold by Monsanto should undergo extensive health and environmental evaluation. The longest study involved would be a two-year animal feeding study which would require an elapsed period of 30 months. To maintain current market position, a replacement product could be sold after thorough screening studies indicate no foreseeable problems but before the long term feeding study is completed. The business group must be prepared to reconsider its selling policy if any adverse effects are noted as the feeding study progresses.

4. SCD Plan

The two-year contingency plan has been adopted. A major element that requires close attention is the completion of all the required health and environmental studies before major marketing and production decisions are made.

5. Current Status of SCD Actions

We desperately need firm committments from the Medical Department regarding studies to be conducted and completion dates.

6. Recommendations

Recommend to corporate management that the two-year phase out plan be approved. Every effort, short of irresponsible behavior, should be made to retain the dielectric business with alternative products. However, because of the environmental demands which will be placed on these products, the difficulty in developing an acceptable fire-resistant substitute and the good probability that the market will be supplied from many sources would lead to a decision to forego the dielectric market.

STLCOPCB4049599

OCT.

DSW 175079

October 31, 1975

Auerbach Associates, Inc.
121 North Broad Street, Room 928
Philadelphia, Pennsylvania 19107

Gentlemen:

In behalf of the Filtered Resin Products Company, Baxley, Georgia, I have enclosed the completed information request forms (CDC 2.1, NIOSH) for the following::

Request No.	Product
05140220514021	329 Filtrez
60003296001207	Filtrez 596

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. J. S. Laws
FRP Company

DSW 175080

337

STLCOPCB4049601

October 31, 1975

Auerbach Associates, Inc.
121 North Broad Street, Room 928
Philadelphia, Pennsylvania 19107

Gentlemen:

Enclosed are the completed product information forms (CDC 2.1, NIOSH) for the following:

Request No.	Product
03893050665309	Aroclors
0389305600945**2**	Aroclor 1248
03893056003684	Aroclor

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175081

336

W. B. Papageorge - B2SK

October 31, 1975

MCS 1713 - TOXICITY STUDIES

R. E. Hatton
F. R. Johannsen
J. C. Weber

J. F. Herber - T3G

Fred Johannsen informs me that acute toxicity testing for MCS 1713 has not been made. Will you please arrange for a 100 gram sample to be forwarded to Fred, who will arrange for the appropriate tests.

W. B. Papageorge

/pd

DSW 175082

335

STLCOPCB4049603

W. B. Papageorge - B2SK

October 31, 1975 W. R. Richard

EPICHLOROHYDRIN - MCA STUDY

F. R. Johannsen - A2SC

As discussed, the MICC share of the subject study will be kept to a minimum, certainly not to exceed $5,000.

In determining the MICC share, note that MICC purchases during 1974 totaled 697,283 pounds.

W. B. Papageorge

/pd

DSW 175083

334

STLCOPCB4049604

October 31, 1975

Dr. David P. Brown
Division of Field Studies and
Clinical Investigations
National Institute for
Occupational Safety and Health
U. S. Post Office & Courthouse
Cincinnati, Ohio 45202

Dear Dr. Brown:

Your letter dated October 23 and addressed to Mr. G. L. Bratsch was forwarded to me for response.

It is possible that the customer information you seek is already available within NIOSH. Several weeks ago Dr. John Finklea requested similar information and we suggested to his office that Mr. Stanley Lagro, Environmental Protection Agency, be contacted since he had previously received this information from Monsanto.

I hope the information you need is available to you in this manner. If you encounter any difficulties, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. G. L. Bratsch

bcc: W. W. Withers

DSW 175084

333

STLCOPCB4049605

October 31, 1975

Mr. John F. Chapple
Bio International, Inc.
2801 East Oakland Park Boulevard
Fort Lauderdale, Florida 33306

Dear Mr. Chapple:

During your recent visit we offered to forward to you our comments relating to the assessment of biodegradation of polychlorinated biphenyls.

I have attached a copy prepared by Dr. Saeger . I hope you find it helpful.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Dr. V. W. Saeger

DSW 175085

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STLCOPCB4049606

W. B. Papageorge - B2SK

October 29, 1975

K. W. Easley - 1920

PCB CONFERENCE

D. R. Bishop - B1ND
R. G. Potter - B3SA
Dr. G. Roush - B2SA
J. C. Weber - B1ND
W. W. Withers - B2SA
D. Wood - B2SD

A meeting to review the status of our preparations for the Chicago PCB conference will be held in Room B367 at 2:30 p.m. on November 3.

Agenda

1) Preparation of Presentations

   a) Health and Toxicology - Dr. G. Roush, Jr.

   b) PCB Utility, Economics and Substitutes - D. Wood

2) Public Relations Q & A Sheet - D. R. Bishop

3) Arrangements, etc. - D. Wood

W. B. Papageorge

/pd

DSW 175086

331

STLCOPCB4049607

October 28, 1975

Mr. A. Harrison
Water Resources Technologist
City Engineer's Office
City Hall
100 Wellington Square
Brantford, Ontario, Canada
N3T 2M3

Dear Mr. Harrison:

In response to your letter dated October 8, I have reviewed our records and I can assure you that we do not ship PCBs to anyone located in Brantford, Ontario.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175087

330

STLCOPCB4049608

October 28, 1975

Mr. C. R. Willmore
National Electrical Manufacturers Assn.
821 15th Street, N. W., Suite 438
Washington, D. C. 20005

Dear Mr. Willmore:

Dr. Warren Muir, Council of Environmental Quality, one of the PCB Conference chairmen, called me and informed me of the following:

1) The session is entitled "PCB Utility, Economics, Substitutes."

2) This session is scheduled for the afternoon of November 20.

3) The panel will be composed of representatives from the following:

Dow Chemical
Dow-Corning
EIA
MCA
MIT
Monsanto
NEMA

4) Each representative will be given ten minutes to present a prepared statement. Copies of the statement should be available at the meeting.

5) A discussion period following the presentations is scheduled to last one-half hour. Written questions from the floor will be given to the chairman who will direct the question to the appropriate panel member.

DSW 175088

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STLCOPCB4049609

I understand that Dr. Muir will be formally inviting NEMA to participate. Unless you have already received such an invitation, you can expect either a letter or a telephone call.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: D. Wood
D. R. Bishop

DSW 175089

October 28, 1975

Mr. Clifford Tuttle
Aerovox Corporation
740 Belleville Avenue
New Bedford, Massachusetts 02741

Dear Cliff:

Dr. Warren Muir, Council of Environmental Quality, one of the PCB Conference chairmen, called me and informed me of the following:

1) The session is entitled "PCB Utility, Economics, Substitutes."

2) This session is scheduled for the afternoon of November 20.

3) The panel will be composed of representatives from the following:

Dow Chemical
Dow-Corning
EIA
MCA
MIT
Monsanto
NEMA

4) Each representative will be given ten minutes to present a prepared statement. Copies of the statement should be available at the meeting.

5) A discussion period following the presentations is scheduled to last one-half hour. Written questions from the floor will be given to the chairman who will direct the question to the appropriate panel member.

DSW 175090

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STLCOPCB4049611

I believe Dr. Muir will be formally inviting EIA to participate in this panel. I suspect Tyler Nourse will get the invitation.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: D. Wood
O. Bishop

DSW 175091

W. B. Papageorge - B2SK

October 28, 1975

PCB CONFERENCE

D. R. Bishop
R. G. Potter
G. Roush
W. W. Withers

D. Wood

Dr. Warren Muir, Council of Environmental Quality, who has been appointed Chairman of one of the conference sessions, called me and informed me of the following:

1) The session is entitled "PCB Utility, Economics, Substitutes."

2) This session is scheduled for the afternoon of November 20.

3) The panel will be composed of representatives from the following:

Dow Chemical
Dow-Corning
EIA
MCA
MIT
Monsanto
NEMA

4) Each representative will be given ten minutes to present a prepared statement. Copies of the statement should be available at the meeting.

5) A discussion period following the presentations is scheduled to last one-half hour. Written questions from the floor will be given to the chairman who will direct the question to the appropriate panel member.

Other than the health and toxicity presentation which is being prepared by Dr. Roush and Dr. Callandra, it appears that your presentation will be the only scheduled opportunity for Monsanto to present its story. I recognize that in ten minutes our ability to cover the full subject is severely limited, but I strongly recommend that wherever possible we introduce those ideas which we believe to be very important to our PCB program.

W. B. Papageorge

/pd

DSW 175092

327

W. B. Papageorge - B2SK

October 28, 1975

F. R. Johannsen
Roy Sullivan
M. A. Terpstra

PARA-DICHLOROBENZENE -
HANDLING STATEMENT

J. C. Hutchison

Attached is a copy of a statement prepared by Fred Johannsen relating to handling precautions for Para-Dichlorobenzene. You may use this statement with your customers when you believe it to be appropriate.

Fred Johannsen informs me that Monsanto has never conducted a full acute toxicity screen on our Para-Dichlorobenzene and he suggests that such a study be conducted. By copy of this memo I request Mike Terpstra to forward a 150 gram sample, which is typical of our normal production, to Fred for completion of these studies.

W. B. Papageorge

/pd

DSW 175093

326

STLCOPCB4049614

October 28, 1975

Mr. C. R. Willmore
National Electrical Manufacturers Assn.
821 15th Street, N. W., Suite 438
Washington, D. C. 20005

Dear Mr. Willmore:

I reviewed the report form which you received from ANSI and have the following comments to offer:

Section (a) - Since ANSI C107.1-1974 is fairly new, I would suggest that you designate its status as "0 - no activity." If government agencies pass new regulations, we will probably revise the guidelines but with the uncertainty that exists, it still appears to me that we should designate no activity.

Section (b) - I do not believe this section is relevant to our guidelines.

Section (c) - I propose a statement that indicates the continuing need for our committee because of the high probability that changes in government regulations will occur and will have an impact on the type of guidelines we finally develop.

I hope my comments are helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175094

325

October 28, 1975

Mr. Donald E. Pirc
Product Safety Engineer
Bailey Meter Company
Wickliffe, Ohio 44092

Dear Mr. Pirc:

As requested in your letter dated October 17, I am enclosing a copy of a Material Safety Data Sheet (OSHA Form 20) for our product Aroclor 1016 and a summary which describes Monsanto's program of restricted sales of these materials.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

5

DSW 175095

324

STLCOPCB4049616

October 28, 1975

Mr. Louis M. Zaloga
Purchasing Agent
American Grease Stick Company
P. O. Box 729
Muskegon, Michigan 49443

Dear Mr. Zaloga:

In response to your letter dated October 16, I regret to inform you that our product MCS 1237 has just recently been made commercially available and we have not as yet prepared a Material Safety Data Sheet.

As soon as the information is obtained and the data sheet completed, I will forward you a copy. I hope the lack of this information does not seriously inconvenience you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175096

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STLCOPCB4049617

W. B. Papageorge - B2SK

October 28, 1975

J. C. Weber

COMMENTS - SPORTS ILLUSTRATED ARTICLE

D. R. Bishop - B1ND

Comments relating to the reference article are as follows:

1) The Aroclor trademarks listed on the end page are correct as they apply to the period prior to 1971. Aroclor 1268 was discontinued in 1970. Aroclor 1232 and Aroclor 1262 were discontinued in 1971. Aroclor 1248 and Aroclor 1260 were discontinued in 1972. Aroclor 1016 was first introduced in 1971. We currently produce and sell only Aroclors 1221, 1016, 1242 and 1254. Aroclor 1221 and Aroclor 1016 are used in capacitors. Aroclor 1242 and Aroclor 1254 are used in transformers.

2) The presence of PCBs in products such as those listed on the end page, first column, last full paragraph, does not mean that PCBs are deliberately added to these products. In many instances PCBs are present because of contamination. For example, wood pulps can be contaminated by process water or by PCBs transported in the atmosphere and finding their way into the soil and eventually in the trees. Fish oil can be contaminated because of exposure of the fish to water, sediment or food containing trace amounts of PCBs. Xerox toner canld have been contaminated because the carbon black was made from oil containing PCBs. In one case that I pursued I was told that PCBs were not present in toilet soap; however PCBs were reported to be present because of confusion with a non-PCB germicide which was added to the soap.

3) The reference to pregnant women exposed to PCBs in Japan who suffered miscarriages and stillbirths is misleading. The Japanese authorities ~~an~~ reporting the miscarriages and stillbirths could not and did not attribute either of these to the PCB exposure.

W. B. Papageorge

/pd

DSW 175097

322

STLCOPCB4049618

October 27, 1975

Mr. Thomas Fair
Florida Power & Light Company
P. O. Box 013100
Miami, Florida 33101

Dear Mr. Fair:

Enclosed is the literature I offered to mail you. I hope you find it helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

E
T
BB
LL

DSW 175098

321

October 27, 1975

Mr. Robert D. Rossi
Olmsted County Health Department
415 Fourth Street, S. W.
Rochester, Minnesota 55901

Dear Mr. Rossi:

In response to your letter of October 15, I wish to inform you that due to environmental considerations Monsanto has discontinued the manufacture of Aroclor 5442 and samples of this are no longer available. We currently manufacture Aroclors 1242, 1254, 1221 and 1016.

I am enclosing a Sample Request Form. If you desire a sample of any of these Aroclors, please complete and return to me.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175099

220

STLCOPCB4049620

October 27, 1975

Mr. Gene W. Wilkerson
Polychrome Corporation
160 Terminal Avenue
Clark, New Jersey 07066

Dear Mr. Wilkerson:

I have received your completed Sample Request Form. Due to environmental considerations Monsanto has discontinued the manufacture of Aroclors 1248 and 5442. Our sample supply of these materials has been depleted and I have none to share.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175100

319

STLCOPCB4049621

W. B. Papageorge - B2SK

October 27, 1975 K. S. Rosenberg

OSHA SHEET - DPO

In turn:
D. R. Miller - T3F
J. T. Garrett - A2SA

Will you each please complete your portion of the attached Material Safety Data Sheet and return to me.

W. B. Papageorge

/pd

DSW 175101

318

STLCOPCB4049622

October 24, 1975

Mr. John R. Cramsie
St. Regis Paper Company
Technical Center
West Nyack, New York 10994

Dear Mr. Cramsie:

Enclosed is a copy of the EPA press release announcing the PCB Conference in Chicago on November 19, 20 and 21 and a copy of the tentative agenda which was telephoned to me by Thomas Kopp, EPA.

I strongly recommend that your industry, through its appropriate associations, seek active participation in this conference.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: Phil Slayton

DSW 175102

3 17

STLCOPCB4049623

W. B. Papageorge - B2SK

cc: R. D. Potter
W. W. Withers

October 24, 1975

PCB RECORD RETENTION

Hebbert Porter - Records Center

There are currently boxes of PCB files at the Records Center with the following index numbers:

WM 31-24 through WM 31-54
WM 32-1 through WM 32-5
WD 231 through WD 235
WD 329 through WD 331
WL 30-15 through WL 30-54
WL 31-1 through WL 31-32
WH 10-52

The Forms G-115 on which these are listed indicate that authorized access be granted to J. F. Stapleton and myself. Various destruction dates are shown.

Since I am no longer associated with the PCBs, authorization should be changed to Manager, Product Acceptability, of the concerned division and the Director of Law, MICC. The records should not be destroyed without permission of these two people.

W. B. Papageorge

/pd

DSW 175103

316

W. B. Papageorge - B2SK

October 24, 1975

W. R. Richard

EPICHLOROHYDRIN (ECH) MCA STUDY

Memo FRJ to WBP 10/21/75

F. R. Johannsen - A2SC

As recommended by Bill Richard, MICC will share expenses for the ECH portion of the MCA study at a stated minimum Monsanto share. MICC's portion will be in proportion to our respective use within Monsanto.

W. B. Papageorge

/pd

DSW 175104

315

STLCOPCB4049625

October 24, 1975

Mr. Robert L. Stevens
Purchasing Manager, Chemicals
Economics Laboratory, Inc.
Osborn Building
St. Paul, Minnesota 55102

Dear Mr. Stevens:

In response to your letter dated July 18, I have attached Toxicity Information sheets for Benzyl Chloride and Caustic Potash.

This information represents all of the data relating to toxicity which we have available.

In response to your question relating to biodegradability, I wish to inform you that we have never conducted any studies regarding the degradation of Benzyl Chloride. It is anticipated, however, that Benzyl Chloride would hydrolyze fairly fast to benzyl alcohol. There is literature data that indicates that benzyl alcohol is moderately biodegradable; therefore we would expect Benzyl Chloride to be moderately degradable also.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: J. K. Orrell
bcc: R. H. Mills
R. Perry
J. F. Winkler

DSW 175105

314

STLCOPCB4049626

W. B. Papageorge - B2SK - St. Louis

October 24, 1975

NEWS CLIPPINGS OF JAPANESE
DEATHS
Telex JRD to WBP, 10/24/75

J. R. Durland - 5270

Attached are copies of news articles which should have been sent to Professor Tanaka with Dr. Roush's letter. Will you please see that he receives them.

W. B. Papageorge

/pd

DSW 175106

313

STLCOPCB4049627

W. B. Papageorge - B2SK

October 23, 1975

CHLOROSULFONIC ACID MSDS
Telex JKO to WBP, 10/23/75

J. K. Orell - 1180

Enclosed are Material Safety Data Sheets for Chlorosulfonic Acid.

W. B. Papageorge

/pd

DSW 175107

212

October 23, 1975

Dr. Philip E. Koehler
Department of Food Science
The University of Georgia
College of Agriculture
Athens, Georgia 30602

Dear Dr. Koehler:

In response to your letter of October 17, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175108

311

STLCOPCB4049629

October 23, 1975

Dr. H. E. Brockman
Department of Biological Sciences
Illinois State University
Bloomington-Normal, Illinois 61761

Dear Dr. Brockman:

In response to your letter of October 17, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175109

310

W. B. Papageorge - B2SK

October 23, 1975

H. C. Carder
L D. Hatch
R. Perry
J. F. Winkler

HYDROCHLORIC ACID 20 Be. --
PFIZER, INC.
Request for Evaluation dated 9/26/75

P. R. Parker
J. B. Willmore

What is status of evaluation of Pfizer's specification?

W. B. Papageorge

/pd

DSW 175110

309

STLCOPCB4049631

October 23, 1975

Dr. Terry F. Bidleman
Department of Chemistry
University of South Carolina
Columbia, South Carolina 29208

Dear Dr. Bidleman:

In response to your letter of October 15, I am enclosing a Sample Request Form. If you will complete and return to me, I will have a sample of Aroclor 1016 forwarded to you.

I am also enclosing Monsanto's PCB Manufacture and Sales table which shows the production from 1957 through the third quarter of 1975. PCBs manufactured by Monsanto are sold only to the electrical industry for use in closed systems as a dielectric fluid in transformers and capacitors.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175111

308

STLCOPCB4049632

W. B. Papageorge - B2SK

October 22, 1975

SIZE SPECIFICATIONS

O. E. Dolin - 1670

W. A. Baker - 1100
D. R. Dill
B. S. K. Fung - 1810
D. A. Martin - 1810
J. R. Savage
Louis Stalvey - 1100
F. G. Sutton
D. K. Tippey - 1670

In July specifications for Mersize were tentatively approved with the understanding that they would be effective until December 1, 1975.

What are the plans for initiating the paperwork required to replace the existing tentative specs?

W. B. Papageorge

/pd

DSW 175112

207

STLCOPCB4049633

W. B. Papageorge - B2SK

October 22, 1975

ROSIN SIZE SPECIFICATIONS

Memo FTM dated 8/11/75

Louis Stalvey -- 1100

Claude Bird - 1100
D. R. Dill
F. T. Marshall
J. R. Savage
D. W. Stegen

In his memo Fred Marshall proposed tentative specifications for Mersize CD-2 Liquid, Mersize CD -2 Dry, Mersize RM Dry, Santosize DSO-70 and Santosize DSO-80. What is status?

W. B. Papageorge

/pd

DSW 175113

306

STLCOPCB4049634

W. B. Papageorge - B2SK

October 22, 1975

ROSIN SIZE SPECIFICATIONS

Memo FTM dated 8/11/75

B. S. K. Fung - 1810
Lou Stalvey - 1100

Claude Bird - 1100
D. R. Dill
D. B. Edwards - 1810
F. T. Marshall
J. R. Savage
D. W. Stegen

In his memo Fred Marshall proposed tentative specifications for Mersize LCS-60 and Mersize LCS-70. What is status?

W. B. Papageorge

/pd

DSW 175114

305

STLCOPCB4049635

W. B. Papageorge - B2SK

October 22, 1975

ROSIN SIZE SPECIFICATIONS

Memo FTM dated 8/11/75

O. E. Dolin - 1670
Louis Stalvey - 1100

Claude Bird - 1100
D. R. Dill
F. T. Marshall
J. R. Savage
D. W. Stegen
D. K. Tippey - 1670

In his memo Fred Marshall proposed tentative specifications for Santosize 70T and Santosize 80T. What is status?

W. B. Papageorge

/pd

DSW 175115

304

STLCOPCB4049636

W. B. Papageorge - B2SK

October 22, 1975
MBR - PROFIT CONTRIBUTION
PRODUCT ACCEPTABILITY -
Third Quarter 1975
Memo RGP dated 3/14/75

R. E. Beal
F. J. Fitzgerald

R. G. Potter - B3SA

Upon reviewing my profit contribution to the S & PC Division during the third quarter, I continue to find quantification extremely difficult. I believe the following continuing activities indirectly contributed or will contribute to overall divisional performance income.

1) My involvement with PCB matters escalated during the quarter leaving me with very little time to devote to other products. Interest in PCBs continues to remain high, yet a total ban is still not seriously being considered by any regulatory agency. Monsanto is still regarded as a responsible, cooperative company by governmental regulators, academic representatives and even environmentalists. Time for an orderly withdrawal is still available to us.

2) As described in my July 9 summary, key product specification and quality control reviews are being conducted in the Specialty Product and Process Chemical Groups. These reviews are currently 66% completed.

W. B. Papageorge

/pd

DSW 175116

303

W. B. Papageorge - B2SK

October 22, 1975

PCB BIODEGRADABILITY

Memo DLE to WBP, 10/17/75

D. L. Eby

Enclosed are copies of reports describing the biodegradability of PCBs and a report showing the results of studies relating to the leachability of PCBs from soil.

I hope Mr. Paul R. Counterman finds these useful.

W. B. Papageorge

/pd

3 biodegrad reports
Tucker soil paper

DSW 175117

302

STLCOPCB4049638

W. B. Papageorge - B2SK

October 22, 1975

H. J. Horner - 1740

$P2S_5$ - AMOCO CHEMICALS

Customer Problem Report
PC137P, 9/25/75
E. R. Billen - 1740

Reminder: No shipments should be released without Chief Chemist's approval.

W. B. Papageorge

/pd

DSW 175118

301

STLCOPCB4049639

October 22, 1975

Dr. James R. Allen
Department of Pathology
University of Wisconsin
Medical School
Madison, Wisconsin 53706

Dear Dr. Allen:

Monsanto's Dr. Paul Wright informed me of your request for a sample of Aroclor 1016. I am enclosing a Sample Request Form. If you will complete and return to me, I will arrange for the sample to be mailed to you.

It may be of interest to you to know that we have discontinued the manufacture of many of the Aroclors and currently only the following are commercially available: Aroclor 1221, Aroclor 1016, Aroclor 1242 and Aroclor 1254.

I have taken the liberty of also enclosing a copy of a table which designates the homolog content of these commercial mixtures.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Dr. P. L. Wright

DSW 175119

305

STLCOPCB4049640

October 22, 1975

Mr. Louis Wagner
Chem-Trol Pollution Services, Inc.
P. O. Box 200
Model City, New York 14107

Dear Mr. Wagner:

Attached is the material I had offered to send you. I hope you find it informative and useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cover letter
GE letters to EPA (dated 1/17/74)
Monsanto askarel bulletin
EIA Position Paper

DSW 175120

299

STLCOPCB4049641

W. B. Papageorge - B2SK

October 21, 1975

G. E. - HUDSON FALLS

Memo to File, DW, 10/8/75

L. T. Johnson - 1650

P. L. Slayton - 1650
D. Wood

Attached are copies of a research report in which the results of the River Die Away Studies are included, along with other information relating to the environmental compatability of Aroclor 1016.

Will you give these to Luke Hart as suggested in Dave Wood's memo.

W. B. Papageorge

/pd

DSW 175121

298

STLCOPCB4049642

W. B. Papageorge - B2SK

October 21, 1975

A. W. Deverell - Melbourne
Mike Marshall

G. J. Levinskas - A2SA

Attached is a copy of Mr. Deverell's memo requesting our opinions regarding FDA's approval of consumer products containing sodium pentachlorophenate. May we have your comments?

W. B. Papageorge

/pd

DSW 175122

297

STLCOPCB4049643

W. B. Papageorge - B2SK

October 21, 1975

WASTE DISPOSAL - CADENCE CHEMICAL

D. B. Hosmer

Attached is some information I received from Ted Reese, Cadence Chemical Resources, Inc., in which he is soliciting our waste stream business.

If there is any interest will someone contact Mr. Reese to see what he has to offer.

W. B. Papageorge

/pd

DSW 175123

296

STLCOPCB4049644

October 21, 1975

Dr. E. L. Simons
General Electric Co.
One River Road
Schenectady, New York 12345

Dear Ed:

We are pursuing your suggestion to discuss the Sports Illustrated article with Mr. Boyle.

Our comments to the New York Times and Wall Street Journal were all made over the telephone; therefore I have no copies to send you. I have, however, attached a copy of a response made to one of the local newspapers. This gives you an idea of the types of comments we have been making.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175124

295

STLCOPCB4049645

W. B. Papageorge - B2SK

October 21, 1975

PROPOSED STANDARDS -
ALKYL BENZENES

H. S. Bergen
R. E. Bilger
W. K. Johnson
R. G. Potter
W. R. Richard
J. C. Weber

H. C. Carder
J. R. Savage

Attached is a copy of the Federal Register for October 8, 1975, which contains proposed standards for alkyl benzenes. Will you share these as appropriate, with plant personnel.

Comments are invited and may be submitted by December 1, 1975. See page 47266 regarding comment submission.

I will coordinate any comments received with the Medical Department which will coordinate the total Monsanto input.

W. B. Papageorge

/pd

DSW 175125

294

STLCOPCB4049646

October 21, 1975

Mr. Mike Stanczyk
Van Waters & Rogers
Box 5287
Denver, Colorado 80217

Dear Mr. Stanczyk:

In response to your recent inquiry, I wish to inform you that Monsanto's Santosite does not have FDA approval as a food additive.

Concerning cobalt contents, we do not routinely analyze for this material but random analyses indicate that if it is present, it is less than one ppm which is the limit of detection of the test method used.

I hope the above information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: J. F. Winkler

DSW 175126

293

STLCOPCB4049647

W. B. Papageorge - B2SK

October 21, 1975

D. B. Hosmer

Attached is a summary of the meeting called by Bergen to discuss the PCB Symposium to be held in Chicago on November 19 - 21.

I understand the following are scheduled to attend:

H. S. Bergen
D. R. Bishop
David Wood
K. W. Easley
W. B. Papageorge
J. P. Mieure
Dr. J. Callandra, Industrial Bio-Test
Dr. George Roush
G. J. Levinskas or P. L. Wright

W. B. Papageorge

/pd

DSW 175127

292

STLCOPCB4049648

W. B. Papageorge - B2SK

October 21, 1975

G. E. REQUESTS

Memo JPM to DW, 10/10/75

D. Wood

R. E. Keller
J. P. Mieure
W. R. Richard

In responding to Items (1) and (2) in Jim Mieure's memo, I propose that we forward a copy of the Fishbein paper (copies are attached) and comment on biphenyl purity as follows:

> "Identifiable materials present in our biphenyl contribute to the presence in the polychlorinated biphenyl mixture (the material of primary concern to you) of the following:
>
> | | |
> |---|---|
> | Chlorinated naphthalene | <3 ppm |
> | Chlorinated methyl naphthalene | <6 ppm |
> | Chlorinated methyl biphenyl | 100 ppm max. |
> | Chlorinated dibenzofurans | <.5 ppm |
> | Unidentified | 60 ppm max." |

W. B. Papageorge

/pd

DSW 175128

291

STLCOPCB4049649

W. B. Papageorge - B2SK

October 21, 1975

$POCl_3$ - DOW CHEMICAL
Memo WBP to BDH, 10/6/75

B. D. Heckenberg - B3NC

H. C. Carder
H. J. Horner - 1740
A. E. Leisy - 1740
J. A. Gloeckner - 1740
R. Perry

In the reference memo I requested that we obtain copies of Dow Chemical's analytical methods for determining assay and iron. Can we expect to receive copies in the near future?

W. B. Papageorge

/pd

DSW 175129

290

STLCOPCB4049650

W. B. Papageorge - B2SK

October 21, 1975

CAUSTIC POTASH - MERCK
Memo WBP to JFW, 9/23/75

J. F. Winkler - B3NC

R. S. Appel - N. Y.
H. C. Carder
W. S. Ellsworth - N. Y.
J. J. Horner - 1740
J. C. Hume - 1740
R. Perry

Has a decision been made regarding the establishment of a special specification which will meet Merck's proposal?

W. B. Papageorge

/pd

DSW 175130

289

October 20, 1975

Mr. Charles Willmore
National Electrical Manufacturers Assn.
821 15th Street, N. W.
Washington, D. C. 20005

Dear Mr. Willmore:

Attached is a copy of the EPA's press release describing the PCB conference to be held in Chicago the latter part of November. I have also attached a copy of a tentative agenda describing the topics of discussion.

I strongly recommend that the askarel users who are members of NEMA seriously consider participating in the program. It appears to me that your group can speak with authority in the areas of uses of PCBs, alternative materials and economics and approaches to control.

If NEMA desides to participate I suggest you contact

Mr. Thomas Kopp
Environmental Protection Agency
401 "M" Street, S. W.
Washington, D. C. 20460
Telephone (202) 755-4880.

I believe NEMA is in an excellent position to present evidence that PCBs used in askarels offer benefits both economically and in safety which have yet to be duplicated.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen

DSW 175131

287

STLCOPCB4049652

October 20, 1975

Dr. H. E. Swim
Medical Center
College of Medicine
University of Kentucky
Lexington, Kentucky 40506

Dear Dr. Swim:

In response to your letter of October 15, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175132

-86

STLCOPCB4049653

October 20, 1975

Mr. Angelo Bellomo
164 Western Avenue
Glendale, California 91201

Dear Mr. Bellomo:

Enclosed is the PCB literature which I promised to mail you.

I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

H
J
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Q
V
II
T

metcalf paper WBP affidavit

JJ
E
HH
Z
AA
CC
BB

LL
X

DSW 175133

285

STLCOPCB4049654

October 20, 1975

Mr. S. S. McNeill
Administrative Assistant
McKesson Chemical Company
One Post Street
San Francisco, California 94104

Dear Mr. McNeill:

In response to Mr. J. P. Hobe's letter dated September 29, addressed to Monsanto's Mr. James Wright, I am enclosing our Continuing Guarantee for Muriatic Acid, food grade.

We do not test for Salmonella and would not expect it to be present in Muriatic Acid.

Polychlorinated biphenyls (PCBs) are not used as ingredients nor are they used in the processing equipment used in the manufacture of Muriatic Acid. To the best of our knowledge and belief there are no PCBs present in Muriatic Acid.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: Mr. J. D. Wright
bcc: J. P. Winkler

DSW 175134

STLCOPCB4049655

W. B. Papageorge - B2SK

October 20, 1975

H. C. Carder
W. E. Johnson - 1760
E. D. Malone - 1760

MALEIC ANHYDRIDE -
BORG-WARNER CHEMICALS

Wayne Lorenz - B3NC

Attached is a copy of Borg-Warner Chemicals' tentative raw material specification for Maleic Anhydride, which we can meet and I have accordingly approved. Will you please arrange to have this forwarded to Mr. Roger L. Pettit.

Borg-Warner also requests certification of quality, which we can provide. Please arrange to have the SSI remind the plant of this requirement. Copies of the certificates are to be mailed as shown in the attachment.

W. B. Papageorge

/pd

DSW 175135

283

STLCOPCB4049656

October 17, 1975

Dr. Raymond E. Shapiro
Epidemiology Unit, HFF-108
Bureau of Foods
Department of Health, Education and Welfare
Food and Drug Administration
Washington, D. C. 20204

Dear Dr. Shapiro:

I recently came across an article in Toxicology and Applied Pharmacology which described the marked differences in the biological effects of Aroclor 1016 and Aroclor 1242. In your evaluation of tolerances levels for PCBs, I thought that you would be interested in this paper. I have attached a copy in the event you had not seen it.

I have also attached a copy of an older report which describes residue lâvels of PCBs in test animals and appears to support the Monsanto study which I had sent to you earlier.

I hope these papers are interesting and useful.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175136

282

STLCOPCB4049657

W. B. Papageorge - B2SK

October 17, 1975

BIO-INTERNATIONAL

H. S. Bergen
R. E. Keller
J. E. Maurer

W. H. Duffey - E1SA
J. P. Mieure - T2B
W. R. Richard - T3A
V. W. Saeger - T2F
D. Wood - B2SD

Arrangements have been completed for a discussion with representatives of Bio-International relating to the bacterial degradation of PCBs. Representatives for Bio-International will be the following:

Mr. John Chapple - Chairman of the Board
Mr. Richard Ferry - Attorney
Dr. Sam Meyers - Consultant -- Microbiologist, Louisiana State University

The meeting will take place at 9:30 a.m. on Wednesday, October 22 in Room E-273 North. Our objective is to determine if Bio-International has a practical application which we or our customers may find helpful in controlling PCB contents of waste effluents.

W. B. Papageorge

/pd

DSW 175137

281

October 17, 1975

Mr. Larry Wapensky
U. S. Environmental Protection Agency
Region 8
Box 25366 DFC
Denver Colorado 80225

Dear Mr. Wapensky:

Your completed Sample Request Form has been received and you will receive the sample under separate cover.

I am enclosing some information on Aroclor 1016 which I hope you find helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBPjpd

EE

GG

KK

DSW 175138

STLCOPCB4049659

W. B. Papageorge - B2SK

October 16, 1975
SCRIPSET 540 - OLIN

D. R. Dill
F. G. Sutton
J. R. Savage

M. J. Redella

In a letter addressed to Monsanto and dated August 29, 1975, Mr. L. S. Burhans, Ecusta Paper Division, Olin Corporation, requested product specifications and test methods relating to Scripset 540.

By definition the "unrestricted sales" information listed in the tentative Finished Product Specification dated 7/15/74 should be shared with customers on request. Copies of analytical procedures can be obtained and forwarded.

The decision regarding response to Mr. Burhans rests with Marketing. My office can help prepare the material if we decide to send it.

W. B. Papageorge

/pd

DSW 175139

278

STLCOPCB4049660

October 16, 1975

Mr. Phillip Chim
4403 Queens Boulevard
Sunnyside, New York 11104

Dear Mr. Chim:

Enclosed is the Sample Request Form which I offered to mail you. If you will have this completed by an authorized person at your university and return to me, I will have the sample forwarded to you.

If we can be of further service please let us know.

Sincerely,

Peggy Dean
Sec'y to W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175140

STLCOPCB4049661

October 16, 1975

Mr. Clifford Tuttle
Aerovox Corporation
740 Belleville Avenue
New Bedford, Massachusetts 02741

Dear Cliff:

Attached is a copy of a tentative agenda which was received over the telephone from Thomas Kopp, EPA.

I recommend that the EIA PCB Ad Hoc Committee consider participation in the National PCB Conference. It seems to me that your participation could fit in these categories:

1) PCB uses, sources and identification

2) Alternative materials and economics

3) Approaches to control

I recognize that the preparation of the material is time consuming and within EIA there may not be enough time to prepare new position papers. I would suggest that the recently completed position paper which was submitted to Russel Train, et al be presented at this conference.

If you believe EIA should participate, call or write Mr.

Mr. Thomas E. Kopp
Environmental Protection Agency
Waterside Mall
401 M Street, S. W.
Washington, D. C. 20460
Telephone (202) 755-4880

Confirming our earlier discussion, Monsanto plans to participate and has requested that its speakers be included on the agenda.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
Attachment

DSW 175141

276

STLCOPCB4049662

bcc: H. S. Bergen
R. G. Potter

October 16, 1975

Dr. John L. Buckley
Environmental Protection Agency
WSMW 635B RD 675
401 M Street, S. W.
Washington, D. C. 20460

Dear Dr. Buckley:

As discussed with Tom Kopp, Monsanto would like to participate in the November National Conference on PCBs to be held in Chicago.

We believe we can contribute and would like to present comments in the following areas of interest:

1) Health and toxicology

2) Uses, sources, identification and biodegradation

3) Alternative materials -- economics, tradeoffs

4) Approaches to control.

I hope you can arrange to include our presentations in your agenda. If there are subject areas which you believe would be of greater significance, please let me know.

Regards,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. Franklin A. Ayer
Research Triangle Institute

Mr. Thomas E. Kopp, EPA

Mr. K. W. Easley, Monsanto

DSW 175142

275

October 15, 1975

Mr. George Swartz
Buell Engineering
200 North Seventh Street
Lebanon, Pennsylvania 17042

Dear Mr. Swartz:

Enclosed is the askarel literature you requested.

I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

BB
LL

DSW 175143

27

STLCOPCB4049664

October 15, 1975

Dr. Eric L. Simmons
Chief, Experimental Biology Section
The Franklin McLean Memorial Research
Institute
Box 420
Chicago, Illinois 60637

Dear Dr. Simmons:

I have received the completed PCB Sample Request Form and you will receive the sample under separate cover.

Regarding disposal of the unused portion, since the amount is so small, I would suggest you dispose of this material in a properly managed sanitary landfill.

PCBs are readily soluble in the common hydrocarbon solvents, which gives you considerable latitude in the selection of the solvent suitable to your study. Edible oils such as corn oil have been used, as well as the more volatile solvents such as acetone and hexane. I understand that with the edible oils the solution is used as prepared. With the volatile solvents the PCBs are introduced to the animal feed and the solvent is permitted to evaporate before the feed is offered to the test animal.

I hope the above is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175144

27

STLCOPCB4049665

October 14, 1975

Mr. Harold Wass
Regional Engineering Supervisor
Improved Risk Mutuals
15 North Broadway
White Plains, New York 10601

Dear Mr. Wass:

In response to your letter dated October 1, I can confirm that we have discontinued the sales of Aroclor 1248 for several years. For environmental reasons we do not recommend that this type of fluid be used for heat transfer applications.

The effect of continued use on Aroclor 1248 is extremely difficult to predict unless the circumstances surrounding the use are known. The presence of moisture, the use of improper materials of construction, the exposure to other chemicals, and the temperatures to which it is heated could result in chemical changes.

Enclosed is literature describing our current heat transfer fluids which we strongly recommend be considered for replacing the Aroclor 1248 now in your client's system.

I hope the above information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175145

276

STLCOPCB4049666

W. B. Papageorge - B2SK

October 14, 1975

H. S. Bergen
R. E. Keller
D. Wood

J. P. Mieure - T2B

Confirming our telephone conversation, will you please procedd with the necessary studies which you believe appropriate to help establish the biodegradation rates of PCB homologs, specifically those present in Aroclors 1016, 1242 and 1254.

As you know, some of our customers have expressed considerable interest in obtaining this type of information and we may find this data useful for the pending November PCB hearings.

W. B. Papageorge

/pd

DSW 175146

October 14, 1975

Mr. M. Dunay
Chemical Control, Inc.
23 South Front Street
Elizabeth, New Jersey 07020

Dear Mr. Dunay:

Enclosed is the PCB information you requested during our recent telephone conversation.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: P. L. Slayton

E
T

DSW 175147

270

STLCOPCB4049668

October 14, 1975

Ms. Peggy Lang
Secretary-Buyer
The Dexter Corporation
East Water Street
Waukegan, Illinois 60085

Dear Ms. Lang:

In response to your letter of October 9, addressed to Mr. John Cochran, I am enclosing a Material Safety Data Sheet and Product Specification sheet for Maleic Anhydride.

Monflex 4530 is no longer an active product so we have no information to share.

The other products which you listed will be handled by others divisions within the company. IfII can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: [redacted]. F. Sellew

DSW 175148

769

STLCOPCB4049669

W. B. Papageorge - B2SK

October 14, 1975

E. P. McDonald - B3NC
J. C. Hutchison - B8NC

PURO/PDCB

Memo RPS to JCH & WBP, 9/10/75

R. P. Sullivan - G4NN

Attached is a copy of our product specification for PDCB and the test methods used by our laboratory to determine product quality, as requested by Norm Wilson in his letter to you dated September 8.

W. B. Papageorge

/pd

DSW 175149

-18

STLCOPCB4049670

October 13, 1975

Miss Lisa Landers
Biochemistry Department
Bradshaw High School
Florence Alabama 35630

Dear Miss Landers:

Mr. G. F. Barton has referred your completed Sample Request Form to me. Due to environmental considerations, Monsanto has discontinued the manufacture of Aroclors 1232, 1248, 1260 and 1268. I am arranging for samples of Aroclors 1221, 1242, and 1254 to be forwarded to your school.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175150

367

STLCOPCB4049671

October 9, 1975

Dr. Roy Wesley
199 Maywood Avenue
Maywood, New Jersey 07607

Dear Dr. Wesley:

Enclosed is the Sample Request Form I offered to mail you. If you will complete this and return to me, I will have a sample of Aroclor forwarded to you.

If we can be of further service please let us know.

Sincerely,

Peggy Dean
Secretary to W.B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175151

266

STLCOPCB4049672

October 9, 1975

Mr. Joe Fisher
Manufacturing Engineering Office
Room 582
Ford Motor Company
World Headquarters Building
The American Road
Dearborn, Michigan 48121

Dear Mr. Fisher:

In response to your request to Mr. Bill Slowikowski, I would like to inform you that polychlorinated biphenyls (PCBs) are not used as ingredients nor are they used in the processing equipment used in the manufacture of Monsanto's Pydraul 312C and 50E which your company purchases.

To the best of our knowledge and belief there are no PCBs present in Pydraul 312C and 50E.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175152

265

STLCOPCB4049673

October 8, 1975

Dr. B. Dudenbostel
U.S. Environmental Protection Agency
Region 2
Edison, New Jersey 08817

Dear Dr. Dudenbostel:

Enclosed is Monsanto's PCB Manufacture and Sales Table which we discussed over the telephone.

I hope you find the information helpful. If we can be of futther service please let us know.

Sincerely,

Peggy Dean
Secretary to W.B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175153

14

STLCOPCB4049674

October 7, 1975

Rhodia, Inc.
600 Madison Avenue
New York, New York 10022

Attention: S. Reinoso

Dear Ms. Reinoso:

Enclosed is the Sample Request Form which I promised to mail you. If you will have this completed and return to me, I will have a sample of Aroclor 1254 forwarded to you.

I am also enclosing some literature on polychlorinated biphenyls. If we can be of further service, please let us know.

Sincerely,

Peggy Dean, Sec'y to
W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

GG
Aroclor 1254 Spec. Prop'

DSW 175154

STLCOPCB4049675

October 7, 1975

Mr. Larry Watessky
U.S. Environmental Protection Agency
Region 8
Box 25366
Denver Federal Center
Denver, Colorado 80225

Dear Mr. Watessky:

Enclosed is the Sample Request Form which I offered to mail you. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1242, 1254 and 1016.

If we can be of further service please let us know.

Sincerely,

Peggy Dean, Sec'y to
W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175155

262

STLCOPCB4049676

W. B. Papageorge - B2SK

October 7, 1975

PCB Symposium - November

Elmer P. Wheeler
A2SA

I contacted Dr. Edward L. Simons, General Electric, Schenectady, New York, relating to the request from Dr. Jack Moore, NIEHS.

Dr. Simons informed me that their legal counsel will not permit any G.E. participation as long as the New York State hearings are underway.

Will you please forward this to Dr. Moore.

W. B. Papageorge

/rd

DSW 175156

261

STLCOPCB4049677

October 6, 1975

Dr. David Weinstein
Hoffmann-LaRoche, Inc.
Nutley, New Jersey 07110

Dear Dr. Weinstein:

Mr. David Wood has informed me of your request for Aroclor 1254 to be used in mutagenicity studies. I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of the material forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: David Wood

DSW 175157

260

STLCOPCB4049678

W. B. Papageorge - B2SK

October 6, 1975

G. L. Bratsch

THERMINOL 60

Fred Matthews - 1687

Confirming our telephone discussion, Therminol 60 does not contain polychlorinated biphenyls (PCBs). It is a highly molecular weight aromatic and was develpped as a substitute for the PCB-type heat transfer fluids. I have attached a brochure, toxicity statement and Material Safety Data Sheet for your information.

Finally, I would like to remind you that Therminol 60 is not fire resistant.

W. B. Papageorge

/pd

DSW 175158

25

STLCOPCB4049679

October 6, 1975

Dr. Joseph C. Arcos
School of Medicine
Tulane University Medical Center
New Orleans, Louisiana 70118

Dear Dr. Arcos:

In response to your letter of October 2, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you. I regret to inform you that we have no individual, separated, polychlorinated biphenyl compounds. Perhaps Analabs, Inc., 80 Republic Drive, North Haven, Connecticut 06473, may be able to help.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175159

258

STLCOPCB4049680

W. B. Papageorge - B2SK

October 6, 1975

TABULAR ALUMINA BALLS - DPO
Raw Material Spec
Memo WWK to PDG et al, 9/23/75

W. W. Klemme - 1200

P. D. Griffin - 1200
J. L. Kilby - 1200
D. R. Miller
J. T. Payne - 1200
J. R. Savage

I reviewed the subject raw material specification with Dave Miller, who informs me that in his opinion the form in which the alumina is present is critical. I understand he plans to discuss this with you. When resolved, will you please reissue the spec.

W. B. Papageorge

/pd

DSW 175160

257

STLCOPCB4049681

W. B. Papageorge - B2SK

October 6, 1975

$POCl_3$ - DOW CHEMICAL

Memo HJH to WBP, 9/30/75

B. D. Heckenberg - B3NC

H. C. Carder
H. J. Horner - 1740
A. E. Leisy - 1740
J. A. Gloeckner - 1740
R. Perry

The plant has indicated in the reference memo that Dow Chemical's specification for $POCl_3$ could probably be met; however Hap Horner would like to see copies of Dow's test methods OA-99 and OA-105.

Will you please arrange to obtain copies of these methods for Hap.

W. B. Papageorge

/pd

DSW 175161

256

STLCOPCB4049682

W. B. Papageorge - B2SK

October 6, 1975 J. C. Hutchison

THE PURO COMPANY

Memo, RPS to WBP, 8/25/75

R. P. Sullivan - G4NN

The comments that Mr. Wiener of Standard Chloride made to Bob Rosen, Puro, are misleading. The list which Mr. Wiener mentioned is the NIOSH-HEW list published in the June 23 Federal Register. This list, consisting of 1362 materials, is a compilation of materials which are reported to have caused a cancer effect in some test animal under any test conditions. NIOSH has requested industry to submit comments which would help determine whether these materials are safe. Paradichlorobenzene is included in that list. This does not mean that anything definite has been proven.

Producers and users of chlorobenzenes have met under the auspices of the Manufacturing Chemists Association and are jointly sponsoring studies to establish the safety of these materials. Monsanto is participating in this program. Any information we receive will be forwarded to you as soon as it becomes available. In my opinion there is no information currently available which would indicate that Paradichlorobenzene has any unusual toxic properties.

Item 2 of the reference memo refers to a letter from a Mrs. Gaffney expressing concern about the toxicity of Paradichlorobenzene. It appears she read articles describing the material as being highly toxic. I suspect the articles were based on the NIOSH list.

Bob Rosen's answer to Mrs. Gaffney appears to me to be appropriate. Unless we hear further from Mrs. Gaffney, I would suggest that nothing more be done at this time.

W. B. Papageorge

/pd

DSW 175162

25

W. B. Papageorge - B2SK

October 3, 1975

SULFURIC ACID
CUSTOMER SPECIFICATIONS

H. C. Carder
A. G. Corey - 1410
L. D. Hatch - 1410
N. G. Hobbs - 1410
R. Perry - Q3C

J. F. Winkler

Attached are copies of the Everett plant's responses resulting from their evaluations of several proposed customer specifications.

Will marketing review each of these proposed specifications with the customer and let us know the results of these discussions.

W. B. Papageorge

/pd

DSW 175163

254

STLCOPCB4049684

October 3, 1975

Dr. David B. Miller
Electrical Engineer
3708 Woodcliff Drive
Lafayette, Indiana 47905

Dear Dr. Miller:

I regret and apologize for my delayed response to your letter dated August 27.

I finally consolidated the various comments I received within Monsanto which are reflected in the attached revised statement.

I hope that this information is still useful to you.and that my tardy response has not created any serious inconvenience for you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175164

STLCOPCB4049685

Authorized Statement from Monsanto (7/23/75)

1. Recognizing the ecological considerations associated with the continued use of PCBs, Monsanto has an active program seeking alternative materials for use in electrical applications. This search has not been an easy task because the fire safety features of PCBs have yet to be duplicated.

2. Monsanto has offered several fluids to the capacitor manufacturers for evaluation as replacements for askarels. None of these fluids, however, are fire-resistant. Monsanto has selected the product referred to as MCS 1238 as one of the most promising candidates.

3. Monsanto as of this time (7/23/75) has not offered any candidate for replacement of transformer askarels. The search for transformer fluid replacements continues and Monsanto expects to have candidates in the next two to three months.

4. Definitions, test techniques and standards for the traditional insulating fluids characteristics (dielectric strength, viscosity, etc.) are adequately covered by existing ASTM standards -- for new fluids.

5. Adequate definitions, test techniques and standards for the flammability, toxicity and environmental impact (degradability) of existing and new fluids are lacking and need to be developed.

6. The interaction of any new fluid with the configuration and materials of the transformer or capacitor will be important and may require explicit testing and long term tests to establish reliability in performance.

7. Thus, it appears that new testing procedures will be needed, but these must be developed and tailored for each particular new fluid.

8. October 3, 1975

It is our considered belief that polychlorinated biphenyls, under carefully controlled and regulated conditions, can be manufactured, transported, utilized and eventually disposed to provide a fire-resistant fluid which can be used in sealed electrical equipment, permitting the efficient and safe distribution of power with non-detectable harm to the environment.

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175165

STLCOPCB4049686

October 3, 1975

Mrs. Gay Contos
Versar, Inc.
6621 Electronic Drive
Springfield, Virginia 22151

Dear Mrs. Contos:

Enclosed are my responses to your questions. I hope you find them helpful.

I regret the delay and hope it has not seriously inconvenienced you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Metcalf paper
E
mfg table
HH
JJ
MM

DSW 175166

-12

STLCOPCB4049687

October 2, 1975

Mr. R. K. Ballentine
Environmental Protection Agency
Waterside Mall
401 "M" Street, S. W.
Washington, D. C. 20460

Dear Mr. Ballentine:

Enclosed is a copy of Dr. Metcalf's study relating to PCBs which I offered to send you. I have also included copies of reports by Monsanto people in which we describe the differences in biodegradation of the various PCBs.

I hope you find these reports interesting and informative. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175167

251

STLCOPCB4049688

October 2, 1975

Mr. Marvin Phillips
General Electric Company
One River Road
Schenectady, New York 12345

Dear Marv,

A company in the St. Louis area which I am told has considerable experience in the collection and recycling of waste oil is the:

Midwest Oil and Refinery Company
1900 Walton Road
St. Louis, Missouri 63114
Telephone (314) 427-2662

I understand they would be interested in discussing your waste oil problem. I hope they can be helpful to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175168

EA

STLCOPCB4049689

October 2, 1975

Dr. Ruth A. Zweidinger
Chemistry & Life Sciences Division
Research Triangle Institute
P. O. Box 12194
Research Triangle Park, North Carolina 27709

Dear Dr. Zweidinger:

In response to your letter of September 25 in which you requested a sample of Aroclor 1260, I wish to inform you that due to environmental considerations Monsanto has discontinued the manufacture of this product. The materials available are Aroclors 1221, 1242, 1254 and 1016. I am enclosing a Sample Request Form. In the event you desire a sample of any of these materials, please complete the form and return to me. The sample will then be forwarded to you.

If we can be of further service please let us know.

Sincerely,

Peggy Dean
Sec'y to W.B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175169

249

STLCOPCB4049690

October 2, 1975

Hotel Department
Travelers Service, Inc.

1. Quick check counter not easily found. It was the Asst. Manager's desk. Quick check sign was less obvious than Asst. Manager sign.

2. Clerk at counter could not find my registration. He opened 3 envelopes for the key and had to replace the keys with some confusion and hesitation. Envelopes obviously did not have my name on them. I finally spotted my name. I wonder if the clerk can read well.

3. Before the clerk could take care of my needs, he was busy with two other guests who were trying to prepay their bill with credit cards. This took about 15 minutes. In the meantime, regular counter was idle.

4. At 8:00 p.m. with no large group registering, I found no benefits from quick check.

W. B. Papageorge

/pd

DSW 175170

248

STLCOPCB4049691

October 1, 1975

Mr. Tom Rendel
All-Tech Associates
202 Campus Drive
Arlington Heights, Illinois 60004

Dear Mr. Rendel:

Mr. C. F. Seger's office has informed me of your request for samples of Aroclor. Enclosed is a Sample Request Form. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1242, 1254 and 1016.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. C. F. Seger

DSW 175171

STLCOPCB4049692

October 1, 1975

Ms. Judith Bender
1425 Miller Avenue, N. E.
Atlanta, Georgia 30307

Dear Ms. Bender:

Enclosed is the Sample Request Form which I promised to mail you during our telephone conversation. If you will have this completed and signed by an authorized person at your university, and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If we can be of further service please let us know.

Sincerely,

Peggy Dean, Sec'y to
W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175172

STLCOPCB4049693

September

DSW 175173

STLCOPCB4049694

W. B. Papageorge - B2SK

September 29, 1975

PCB REVIEW

Memo WBP to FJF, 9/19/75

H. S. Bergen

G. L. Bratsch
D. Bishop
T. H. Bottini
J. T. Garrett
R. G. Potter
G. Roush
W. W. Withers

Attached is the Medical Department's recommendation in response to item 4 of the reference memo.

W. B. Papageorge

/pd

Attachment

DSW 175174

245

STLCOPCB4049695

PCB EXPOSURE CONTROL

1. PREMISE

Current data indicates that PCB type materials may be more hazardous to working personnel than had previously been considered. Based on these facts, the control of exposure of workers where PCB's are manufactured or used should be re-examined and made more restrictive. Currently the American Conference of Governmental Industrial Hygienists (ACGIH) shows threshold limit values for chlorodiphenyl (42% chlorine) (Arochlor 1242) of 1 mg/M^3 and for chlorodiphenyl (54% chlorine) (Arochlor 1254) of 0.5 mg/M^3. Very limited analysis in the Arochlor department indicates that the airborne concentrations are below these numbers.

The two routes of entry of importance in PCB manufacture and use are vapor inhalation and skin absorption. Although there is no evidence that skin absorption presents a significant hazard, it is probable that some absorption does occur. Since the vapor concentrations are quite low in the operating department that manufactures this product, some type of biological test is needed to determine if skin absorption is occurring, and if so, to what degree. An analytical program must be devised to determine if PCB analysis of the urine is feasible, and can be used as an exposure indicator.

2. RECOMMENDED METHODS OF CONTROL

A. Urine Analysis for PCB

If, indeed, PCB can be analyzed in human urine and levels can be determined that represent the very best operation from an exposure standpoint, a routine urine sampling program should be initiated with limits established for urinary PCB levels that are unacceptable.

B. Vapor Inhalation

Vapor inhalation is a problem only when Aroclor is heated above ambient temperature. Where vapor exposure is possible, air supplied respiratory protection must be worn. An airborne control limit for all PCB vapor exposure must be set as low as is practicable and certainly below the standard for PCB with the lowest TLV currently listed in 29 CFR 1910.93 which is chlorodiphenyl (54% chlorine) (Aroclor 1254). Routine air monitoring must be conducted.

C. Skin

Any operation, particularly maintenance operations, where liquid PCBs or PCB mists can come in contact with the skin, skin protection including gloves and suitable impervious clothing should be used. Where heated Aroclor is present resulting in vapor exposure, air supplied respiratory equipment and impervious clothing both must be

used. For example, in maintenance work on a chlorinator that has been drained but is still hot, air supplied respiratory protection and impervious clothing should both be used.

D. Exposure Registry

An exposure registry must be established on all PCB workers. All urine sample results, if this method proves effective, all air sampling data must be recorded along with all appropriate health information. This registry would be a composite, therefore, of all medical and health data, all airborne exposure data, and all biological excretion data if appropriate. This registry should be so constructed that each individual employee can have available to him all data that pertains to him for examination or transfer to any subsequent employer.

E. Environmental Contamination

We would recommend that all means be exercised, either through engineering changes or through work practice changes to minimize environmental releases, either by air, water or through solid residues. In short, we would recommend that all means within the limits of economic feasibility be utilized to limit releases of these materials into the environment.

Jack T. Garrett

W. B. Papageorge-B2SK

September 29, 1975

H. S. Bergen
T. L. Gossage
EC P. Wheeler

THERMINOL CONVERSIONS - FIRES

C. Paton

Dr. Edward J. Burger, National Science Foundation, has expressed to Elmer Wheeler his interest in developing and reporting the trade-offs that have occurred when our customers were forced to convert from PCBs to alternative materials. He specifically asked Elmer if we had any information relating to fires that resulted when heat transfer systems were converted to non-fire-resistant fluids.

Is there any information available which we can share with Dr. Burger?

W. B. Papageorge

/pd

DSW 175178

744

STLCOPCB4049699

September 29, 1975

Professor P. J. Chapman
Department of Biochemistry
College of Biological Sciences
University of Minnesota
140 Gortner Laboratory
St. Paul, Minnesota 55101

Dear Professor Chapman;

In response to your letter of September 22, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1254, 1242 and 1016.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175179

-43

September 29, 1975

Mr. Norman Deutschman
Manager of Purchasing
Polymer Industries, Inc.
Springdale, Connecticut 06907

Dear Mr. Deutschman:

In response to your letter of September 22 addressed to Mr. Bud Martin, I am enclosing a Material Safety Data Sheet and a copy of a Hygienic Guide Series brochure for Phthalic Anhydride.

I hope you find the information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: B. O. Heckenberg

DSW 175180

42

STLCOPCB4049701

September 29, 1975

203-288-8463

Mr. Douglas Davidson
Analabs, Inc.
80 Republic Drive
Northhaven, Connecticut 06473

Dear Mr. Davidson:

Enclosed is the Sample Request Form which I offered to mail you. If you will have this completed and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclors 1221, 1242, 1254 and 1016.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175181

W. B. Papageorge-B2SK

September 29, 1975 K. R. Rosenberg

THERMINOL VP- 1 -- OSHA SHEET

In Turn

D. R. Miller - T3F
J. T. Garrett - A2SA

Will each of you please complete your portion of the attached OSHA sheet and return to me.

W. B. Papageorge

/pd

DSW 175182

240

STLCOPCB4049703

W. B. Papageorge - B2SK

September 26, 1975

PCB REVIEW

Memo WBP to FJF, 9/19/75

H. S. Bergen

G. L. Bratsch
D. Bishop
D. L. Eby
T. H. Bottini
R. G. Potter
G. Roush
W. W. Withers

Attached is the proposed "Environmental Presence" portion of the Monsanto statement which is being prepared as outlined in the reference memo. This version incorporates all comments received.

Note the title change. This change was made to reflect the original intent of the statement which was to outline the existence of reports which described evidence of decreasing PCBs.

W. B. Papageorge

/pd

DSW 175183

EVIDENCE OF THE DECLINE OF POLYCHLORINATED BIPHENYLS IN THE ENVIRONMENT

Following Monsanto's unilateral action restricting the sale of polychlorinated biphenyls for use only in sealed electrical systems, in which they serve as fire resistant insulating fluids, encouraging reports were received which further support our contention that with proper handling and usage the release of PCBs to the environment can be controlled.

A team from the Woods Hole Oceanographic Institution studied North Atlantic surface waters and reported (Harvey et al, Nature, Lond. 1974, 252, 387) that by the end of 1973 the levels of PCBs in these waters were 40 times lower than those found in 1972. These authors also reported a tenfold decrease of PCB in the atmosphere over the Northwest Atlantic since 1973 and a fivefold decrease since 1973 in the PCB content of mixed plankton from this area.

In a recent report (Blus et al, Bull. Env. Contam. & Toxicol. U. S., 1973, 13, 646) the PCB residues reported in eggs of the brown pelican from Louisiana decreased from a geometric mean of 3.91 mg/g in 1971 to 2.89 mg/g in 1973.

An example of decreasing PCB concentrations in fresh water was submitted during the 1974 hearings relating to Toxic Pollutant Effluent Standards (Sec. 307a P. L. 92-500). Dr. G. Veith, National Water Quality Laboratory, Duluth, Minnesota, referred in his affidavit to an unpublished report entitled PCBs in the Great Lakes. The results of this work by Michigan Water Resources Commission, Bureau of Water Management, Department of Natural Resources, Environmental Protection Branch, have since

DSW 175184

been reported to the Lake Michigan Toxic Substances Committee, May 1973, under the title "Monitoring for Polychlorinated Biphenyls in the Aquatic Environment - Programs Underway in Michigan Waters." In this work, monitoring of major Great Lakes tributaries during 1971 - 1973 identified the Saginaw River as having the highest concentrations of PCBs of any tributary within Michigan boundaries. Intensive sampling throughout the river basin in search of point sources successfully isolated ten major points of PCB discharge to the river system. Each of the industrial sources was asked to identify the cause of their losses and to take corrective action. A marked decline of PCB levels ranging from 0.4 to 2.9 ppb in 1971 to <0.02 to 0.21 ppb after October, 1972 was observed following a program of monitoring and control.

The presence of PCBs in food has also diminished. In a review of food surveys by the Food and Drug Administration (Ramsey, Q. Bull. Ass. Fd Drug Off. U.S. 1973, 37, 43), the PCB contamination of both food and packaging materials had shown some reduction in 1973 compared with the findings of 1971 surveys. The trend seemed to be continuing. An FDA fiscal 1974 survey showed that levels of PCBs in paperboard dropped by a whole order of magnitude from an average of 15.3 ppm in 1972 to 1.4 ppm in 1974. Because of the significant decline in PCB incidence, the agency predicted that monitoring may be relaxed at some time in the future (Food Chemical News, U.S., 1974, 17, No. 10, 11)

In summary, these reports of the decline of PCBs in marine and fresh water systems and in human food and food packaging indicate that elimination of PCBs in "open" type applications has removed the major source of PCBs entering the environment. It is our considered opinion that the examples reported are typical of what is happening in other locations.

STLCOPCB4049707

September 26, 1975

Dr. Paul Milvy
Department of Community Medicine
BSB
Mount Sinai Hospital
100 Street & Fifth Avenue
New York, New York 10029

Dear Dr. Milvy:

Enclosed is the Sample Request Form and the data sheet I offered to mail you.

I hope you find the information useful. If you will complete the form and return to me, I will have the appropriate samples forwarded to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Homolog Table

DSW 175187

238

STLCOPCB4049708

W. B. Papageorge St. Louis B2SK

September 25, 1975 B. D. Heckenberg

Telex JN to BDH, 9/24/75

J. Newton - Brussels

In response to the reference telex, I am enclosing the analytical method for chlorine in Tetrathal.

I hope this meets your needs.

W. B. Papageorge

/pd

DSW 175188

327

W. B. Papageorge B2SK

September 25, 1975

H. S. Bergen
F. R. Johannsen

EPICHLOROHYDRIN - MCA STUDIES

W. R. Richard - T3A

A group consisting of manufacturers and users of Epichlorohydrin meeting under the auspices of the MCA has proposed that a multi-phase program to study the toxicology of this material be jointly sponsored. The cost for this program is to be shared by all participants and will be determined by the quantities produced or used.

Traditionally the supplier of a material has sponsored and paid for this type of work. There is, however, a growing trend in which many interested parties are jointly involved.

The cost of the first phase of this study is estimated at $550,000. I understand this is somewhat on the high side. Assuming that some of the companies will decide not to support such a program, our portion could amount to $5000 - $10,000. Larry Hannah, Agricultural Products Company, informs me that his company is interested and will probably participate.

Fred Johannsen, Medical Department, recommends that we also participate since our employees can be exposed to this material and residual Epichlorohydrin is detectable in our finished products.

I can appreciate Fred's concerns, but I find that I personally prefer that the producer of a material obtain and pay for this type of information and share it with customers and the appropriate regulatory agencies. I therefore recommend that we do not participate in this program, recognizing that eventually the cost of such a study will be reflected in the price we pay for the material. What is the business group's opinion?

W. B. Papageorge

/pd

DSW 175189

September 25, 1975

Mr. Randy R. Ott
Industrial Waste Engineer
Department of Drainage and Sanitation
125 Elwood David Road
North Syracuse, New York 13212

Dear Mr. Ott:

In response to your letter dated September 16, in which you requested a list of industries in the Syracuse area which receive PCBs from Monsanto, I wish to inform you that this information as it pertains to the entire State of New York was recently forwarded to:

Mr. Robert Hallman
Deputy Commissioner and General Counsel
State of New York
Department of Environmental Conservation
Albany, New York 12233

Will you please contact Mr. Hallman's office to obtain this information as well as any other that he may have obtained in his discussions with industry.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175190

25

STLCOPCB4049711

W. B. Papageorge B2SK

September 25, 1975

Dr. George Roush, Jr.

As requested, I have prepared a draft of a letter which I propose we send to Professor Tanaka at Kyushu University. Please feel free to modify as you wish.

W. B. Papageorge

/pd

DSW 175191

234

STLCOPCB4049712

D R A F T

September 25, 1975

Professor Kiyoshi Tanaka
Department of Public Health
Faculty of Medicine
Kyushu University
Fukuoka, Japan

Dear Professor Tanaka:

I note in newspaper articles appearing in the United States a frequent reference to the statement that 16 deaths have resulted from the Yusho disease of 1968. The articles attribute these deaths to PCB poisoning. I have attached copies of typical articles which appeared recently.

As producers of PCBs, we are very interested in the health effects that these chemicals may have on humans. Can you or any of your colleagues provide us with information regarding the accuracy of this newspaper statement? Your help in this very important matter is sincerely appreciated.

Very truly yours,

George Roush, Jr., M.D.
Director, Medical Department

bcc: J. R. Durland
Tokyo

DSW 175192

STLCOPCB4049713

September 25, 1975

Mr. B. F. Rothschild
M & T Laboratories
Mail Code EE-20
Main Electronics Division
Rockwell International Company
3370 Miraloma
Anaheim, California 92803

Dear Mr. Rothschild:

I was informed by Mr. Les Hatch of your request for specifications for our Codex grade Muriatic Acid. I have attached a copy for your use. Please note that the iron content is listed as a maximum of .005 ppm which is one-half that specified by Food Chemical Codex.

In response to your request for identification of any non-volatile material, I wish to inform you that the non-volatile residue is typically considerably less than the 0.5% maximum specified. We have not analyzed this residue but from our knowledge of our process, it is our considered opinion that this material represents hardness components typically found in the water which we use.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: L. D. Hatch
bcc: R. Perry
J. F. Winkler
J. B. Willmore/Del. River

DSW 175193

W. B. Papageorge B2SK

September 25, 1975

Claude Bird - Baxley
O. E. Dolin - Nitro
Lou Stalvey - Baxley*

Sharon Edwards - Baxley*

During our recent discussion relating to quality control practices, we reviewed the merits of documenting the sampling and testing programs for your products.

Attached is a plan developed by the Delaware River plant. You may wish to use this as a guide in developping your own. I have also asked Owen Dolin to send you a copy of a plan he is developing for one of his sizes. He promised to do so in the very near future.

If I can help further please let me know.

W. B. Papageorge

/pd

Attachment*

DSW 175194

232

STLCOPCB4049715

September 24, 1975

Mr. Thomas Whyatt
Hudson River Fishermen's Association
Box 303
Cold Spring, New York 10516 914-424-3525

Dear Mr. Whyatt:

Enclosed is the material I offered to send you during our telephone conversation. I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

E BB
T WBP affidavit
J AA
CC
W
X
LL
Mfg. - Sales Table
Z

DSW 175195

- 21

STLCOPCB4049716

September 24, 1975

Dr. Howard S. Tong
Lorillard
Research Center
420 English Street
P. O. Box 21688
Greensboro, North Carolina 27420

Dear Dr. Tong:

In response to your letter of September 19, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have some Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175196

230

September 24, 1975

Mr. V. J. Decarlo
Office of Toxic Substances
Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Decarlo:

If Environmental Levels of PCBs is available, I would appreciate receiving a copy. Please let me know if there is a charge for this.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175197

229

STLCOPCB4049718

September 23, 1975

Mr. K. A. Waskiewicz
Facility Environmental Engineer
Ford Motor Company
Room #618, Plant Engineering Office
The American Road
Dearborn, Michigan 48121

Dear Mr. Waskiewicz:

In response to your letter of September 11, addressed to Mr. Bill Slowikowski of our Akron office, I have signed "critical material" forms for Pydraul 50-E and Pydraul 312-C and am enclosing these as you requested.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175198

228

STLCOPCB4049719

September 23, 1975

Dr. G. Fred Lee
Route 2, Box 111E
Plano, Texas 75074

Dear Fred:

Thanks for your letter of August 11. I can assure you that I have never found the information you send me to be a burden. In some instances it confirms information I have received previously and in other instances you have sent me new information. In either case I have found it most helpful.

The draft accompanying your letter and describing the impact of dredging on chlorinated hydrocarbons in the environment reminded me of a paper that Monsanto researchers have recently published describing the migration of PCBS in soil. I have attached a copy in the event you had not seen it. I have also taken the liberty of including a pre-publication draft describing the fate of PCBs in animal tissue.

As you are aware, considerable interest has been restimulated by events occurring in the Great Lakes, Hudson River, Chesapeake Bay and Orange County, California. These highly publicized situations have created considerable interest within regulatory agencies, academic institutions and private citizens. Responding to the needs of all of these has placed considerable drain on Monsanto's PCB resources, leaving us very little time to do any planning.regarding future studies. I will try and keep you informed as opportunities permit.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175199

STLCOPCB4049720

W. B. Papageorge B2SK

September 23, 1975

H. S. Bergen
T. H. Bottini
T. L. Gossage

ERDA - NBS
DIELECTRIC FLUID STUDIES

W. R. Richard
D. Wood

Dr. David B. Miller, who recently visited with us as a representative of the National Bureau of Standards, has summarized his impressions in the attached statement. He has asked for our comments and would like to receive them as soon as possible. May I have your responses?

W. B. Papageorge

/pd

DSW 175200

226

STLCOPCB4049721

September 23, 1975

Dr. E. L. Simons
General Electric Company
One River Road
Schenectady, New York 12345

Dear Ed:

I was recently given a copy of an undated open letter from General Electric Company to its electric utility customers. This letter attempts to inform your customers of the proper handling and disposal of Pyranol.

Monsanto has recently issued current information which we hope is being forwarded to the appropriate individuals in your company. I am attaching copies of this information.

Can your office assist us in conveying this message throughout the General Electric organization?

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Attachment

bcc: D. Wood

DSW 175201

225

STLCOPCB4049722

September 23, 1975

Mr. Linden E. Witherell
Environmental Epidemiologist
Department of Health
115 Colchester Avenue
Burlington, Vermont 05401

Dear Mr. Witherell:

In response to your letter to Mr. David Wood of our company dated August 20, 1975, Monsanto Company currently sells polychlorinated biphenyls (PCBs) only as insulating fluid in sealed electrical equipment such as capacitors and transformers. The following approved customer has received shipments of PCBs in your state:

Jard Company, Inc.
Bennington, Vermont 65201

In response to your inquiry regarding transformer oils, PCBs are present as an ingredient in fire resistant transformer fluids known generically as askarels.

I have enclosed a copy of a report issued by the Interdepartmental Task Force on PCBs and a copy of analytical techniques which have been issued by ASTM.

I hope the above information is useful to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

X
ASTM D 3304

DSW 175202

224

W. B. Papageorge - B2SK

September 23, 1975

CAUSTIC POTASH - MERCK

Memo WBP to HHH & JCH, 9/9/75

J. F. Winkler - B3NC

R. S. Appel - 1650
H. C. Carder
W. S. Ellsworth - 1650
H. J. Horner - 1740
J. C. Hume - 1740
R. Perry

The plant has responded to our request for evaluation of Merck's Caustic Potash specifications by indicating that they can meet the specification for standard grade and can also meet by batch selection the high grade specification. A special customer specification must be set up for the high grade. What is your recommendation regarding a special specification?

W. B. Papageorge

/pd

DSW 175203

- 23

STLCOPCB4049724

September 23, 1975

Mr. Fred Edelmann
Safety Advisor
Apple Grove Plant
Goodyear Tire & Rubber Company
Point Pleasant, West Virginia 25550

Dear Mr. Edelmann:

I was informed of your inquiry to Mr. Ken Rosenberg regarding the NFPA rating of Monsanto's Therminol 66.

I am writing to confirm the information that Mr. Rosenberg gave you. The ratings are as follows: Health-1, flammability-1, and reactivity-1, as described in NFPA Bulletin 704M entitled "Recommended System for the Identification of the Fire Hazards of Materials."

I hope this information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: K. S. Rosenberg

bcc: M. A. Petrilli/Akron

DSW 175204

STLCOPCB4049725

W. B. Papageorge B2SK

September 23, 1975

PCB MEETING NOV. 18 - 20, 1975
CHICAGO

H. S. Bergen

D. R. Bishop
K. W. Easley - 1920
R. E. Keller
T. L. Gossage
C. Paton
W. R. Richard
G. Roush
J. R. Savage
D. Wood

I discussed with Tom Kopp, EPA, the status of a proposed PCB meeting in mid-November. He made the following points:

1) The meeting will be sponsored by EPA. HEW, Department of Agriculture, CEQ and Department of the Interior plantto participate but will not sponsor.

2) The decision to hold this meeting is still tentative and apparently rests with Russell Train.

3) Dates and place of meeting are subject to change.

4) Topics to be discussed will include technical and ~~economical~~ information developed since the publication of the Interdepartmental Task Force Report. Discussions will also be encouraged on proposed alternative materials.

5) Participation will generally be by invitation but current plans include providing time for comments from the audience.

6) I expressed to Tom Monsanto's interest in participating in a helpful manner.

W. B. Papageorge

/pd

DSW 175205

STLCOPCB4049726

September 22, 1975

Ms. Carol Harris
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

In Re: 8300

Dear Ms. Harris:

Please send me the verbatim transcript of the public hearing held by the Department of Natural Resources. A check in the amount of $21.84 is enclosed.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175206

19

STLCOPCB4049727

September 22, 1975

Mrs. Gay Contos
Versar, Inc.
6621 Electronic Drive
Springfield, Virginia 22151

Dear Mrs. Contos:

Enclosed is the Sample Request Form which we discussed. If you will have this completed and return to me, I will arrange for the sample to be held for you at the Krummrich plant.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175207

19

STLCOPCB4049728

September 22, 1975

Dr. Eric Simmons
Chief, Experimental Biology Section
The Franklin McLean Memorial Research Institute
Box 420
Chicago, Illinois 60637

Dear Dr. Simmons:

In response to your letter of September 15, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you at no charge.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175208

217

September 22, 1975

Dr. Linda S. Birnbaum
Research Scientist
Masonic Medical Research Laboratory
Utica, New York 13503

Dear Dr. Birnbaum:

In response to your letter of September 15, I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of Aroclor 1254 forwarded to you.

I am also enclosing some literature which I hope you find helpful. If I can be of further service please let metknow.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

T
ASTM D 3304
Spec. properties for Aroclor 1254

DSW 175209

2 16

STLCOPCB4049730

September 22, 1975

Mr. Mark Shulman
670 Bruce Dr.
East Meadow, New York 11554

Dear Mr. Shulman:

In response to your letter of September 17, I am enclosing a Sample Request Form. If you will have this completed by an authorized person at your university and return to me, I will have the samples forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175210

STLCOPCB4049731

W. B. Papageorge B2SK St. Louis

September 22, 1975

R. H. Munch
D. W. Wood

VAPOR PRESSURE DATA

John Buchanan - Montreal

Attached is the vapor pressure information you requested from David Wood.

W. B. Papageorge

/pd

DSW 175211

W. B. Papageorge B2SK

September 19, 1975

REVISED PCB ACTION PLAN RELATIVE TO EPIDEMIOLOGICAL & FEEDING STUDIES

F. J. Fitzgerald - B3SA

H. S. Bergen - B2SL
G. L. Bratsch - B3NA
K. W. Easley - 1920
J. T. Garrett - A2SA
T. L. Gossage - B2SL
G. J. Levinskas - A2SC
R. G. Potter - B3SA
G. Roush - A2SA
W. W. Withers - B2SA

Attached is an updated revised plan relative to subject. This has been agreed and coordinated with all interested parties.

W. B. Papageorge

/pd

Attachment

DSW 175212

2 1

W. B. Papageorge B2SK

September 19, 1975

MCS 327

P. F. Gatens - 1760
T. L. Gossage
J. F. Nemeth - 1760
J. R. Savage

W. R. Richard - T3A

I understand the John F. Queeny Plant is faced with the disposal of 80 drums of MCS 327. Consideration is being given to the possible sale of this material to General Motors. My records do not indicate that EC-201 and EC-202 forms have been completed for this material and the Medical Department has given its approval.

Product Acceptability Practice No. 9 relates to this type of situation. If sale is to take place, I recommend that the appropriate forms be completed quickly.

W. B. Papageorge

/pd

DSW 175213

216

STLCOPCB4049734

September 18, 1975

Ms. Cynthia Gunn
Montreal Star
Fifth Floor Editorial Department
245 St. James Street, West
Montreal, Quebec

Dear Ms. Gunn:

Enclosed is the material which I promised to send you during our telephone conversation.

I hope you find it useful and informative. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

M HH P
7/6/73 Fed. Reg. II Q
J JJ V
W MM
X Metcalf paper
BB WBP affidavit
LL ASTM D-3304

DSW 175214

STLCOPCB4049735

September 18, 1975

Dr. Tomas Morales-Cardona
Department of Pharmacology
Medical Sciences Campus
University of Puerto Rico
G.P.O. Box 5067
San Juan, Puerto Rico 00936

Dear Dr. Morales-Cardona:

In response to your letter of September 8, I am enclosing a technical bulletin on Aroclors which includes a toxicity and safe handling statement, as well as some other literature.

I am arranging for your sample of Aroclor 1254 to be forwarded. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

T
LL
C Aroclor 1254 Spec. Properties

DSW 175215

210

STLCOPCB4049736

September 16, 1975

Dr. Paul Nolan
Research Cotrell
Box 750
Boundbrook, New Jersey 08805

Dear Dr. Nolan:

Enclosed is the ASTM Analytical Method for determining PCBs in environmental materials which you requested from Mr. H. J. Horner.

I hope you find this useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. J. Horner

bcc: D. Wood

D 3304

DSW 175216

STLCOPCB4049737

September 16, 1975

Dr. Russell Rulon
Visiting Scientist
Cardiovascular Research Group
Room 9-455 Alfred Building
Mayo Clinic
Rochester, Minnesota 55901

Dear Dr. Rulon:

In response to your letter of September 8, I am enclosing the old Monsanto Technical Bulletin O/PL-306A. Due to environmental considerations Monsanto currently manufactures and sells only Aroclors 1221, 1242, 1254 and 1016.

I am also enclosing a Sample Request Form. If you will have this completed and return to me, I will have samples of Aroclor 1254 and 1016 forwarded to you.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175217

September 16, 1975

Ms. Claudia Deutsch
Business Week
1221 Sixth Avenue
New York, New York 10020

Dear Ms. Deutsch:

Enclosed is Monsanto's production and sales table for polychlorinated biphenyls which I offered to send. I hope you find this helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Home phone - 212-928-4516
Busi phone - 212-997-4044

DSW 175218

STLCOPCB4049739

September 16, 1975

Ms. Marion Suter
Council on Environmental Quality
722 Jackson Place
Washington, D. C. 20006

Dear Ms. Suter:

Enclosed is Monsanto's production and sales table for polychlorinated biphenyls which you requested.

I hope you find this helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175219

STLCOPCB4049740

September 15, 1975

Dr. Donald A. Hearn
Biology Department
Georgia State University
Atlanta, Georgia 30303

Dear Dr. Hearn:

Monsanto's David Wood has informed me of your request for a sample of Aroclor. I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample of the appropriate material sent to you. The available samples are Aroclors 1221, 1242, 1254, and 1016.

If we can be of further service please let us know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. D. Wood

DSW 175220

September 15, 1975

Mr. R. P. Bohnsack
Purchasing Agent
Power Air Division
Thomas Industries, Inc.
P. O. Box 29
Sheboygan, Wisconsin 53081

Dear Mr. Bohnsack:

In response to your letter dated August 22, I would like to inform you that polychlorinated biphenyls (PCBs) are not used as ingredients nor are they used in the processing equipment used in the manufacture of Monsanto's Pydraul 50E which your company purchases.

To the best of our knowledge and belief there are no PCBs present in Pydraul 50E.

I hope this information is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175221

20.

W. B. Papageorge B2SK

September 15, 1975

G. F. Fague
A. A. Johnson

CAST FORGE
HOWELL, MICHIGAN

Telex DLM to WBP, 8/26/75

D. L. Mellon - 1010

I telephoned Mr. Tom Balger of Cast Forge to discuss disposal of water effluent from his plant.

Mr. Balger informed me that the State of Michigan representatives had sampled his plant effluent pool and had informed him that the PCB content was low enough (no number given) that he could arrange for pickup by a disposal company. Mr. Balger felt that he had no problem for the time being; however he did indicate that the PCB level in this pool does increase for unexplained reasons. He did not appreciate that since he had not drained his system that the small quantities of PCBs still present in his machines would lead to a sporadic contamination of his water effluent. He also did not appreciate that PCBs would be in the sludge which he indicated was present at the bottom of his pool. I suggested that he may be helping his situation considerably by arranging for removal of the sludge and proper burial. Mr. Balger indicated he would consider such an approach.

W. B. Papageorge

/pd

DSW 175222

202

STLCOPCB4049743

September 15, 1975

Dr. O. Hutzinger, Director
Laboratory of Environmental
Chemistry of the University
of Amsterdam, The Netherlands
Nieuwe Achtergracht 166

Dear Dr. Hutzinger:

I have taken the liberty of forwarding your request of August 26 to Dr. R. A. Baxter of Monsanto's laboratories located at Louvain-La-Neuve, Belgium.

I believe Dr. Baxter will be in a better position to assist you. If I can personally be of further service, please do not hesitate to let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Dr. R. A. Baxter

DSW 175223

20

STLCOPCB4049744

W. B. Papageorge St. Louis B2SK

September 15, 1975

P.J. Marsh - 5040
W. R. Richard
H. A. Vodden - 5045

R. A. Baxter - 5045

Attached is a copy of a request I received from Dr. O. Hutzinger, who is now the director of the Laboratory of Environmental Chemistry of the University of Amsterdam, The Netherlands. In his letter Dr. Hutzinger refers to a product "Thermo", which he believes is manufactured by Monsanto.

Will you arrange to establish specifically with Dr. Hutzinger what material he is interested in and provide him with samples and literature as appropriate.

If I can help further please let me know.

W. B. Papageorge

/pd

DSW 175224

2 00

STLCOPCB4049745

September 15, 1975

Dr. E. Sturino
Chief, Organic Section
United States Environmental
Protection Agency
Central Regional Laboratory
1819 West Pershing Road
Chicago, Illinois 60609

Dear Dr. Sturino:

In response to your letter of September 2 addressed to Dr. James Mieure, I have attached a copy of a procedure for the determination of polychlorinated biphenyls in polychlorinated terphenyl mixtures employing the hydrogenation technique.

I hope you find this helpful. If we can be of further service, please let us know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: Dr. J. P. Mieure

DSW 175225

199

STLCOPCB4049746

W. B. Papageorge B2SK

September 15, 1975

CHEM-TROL

T. H. Bottini
T. L. Gossage
C. Paton
D. Wood

H. S. Bergen

On September 11 I received a telephone call from Mr. Lou Wagner of Chem-Trol Pollution Services, Inc., 1550 Balmer Road, Model City, New York 14107, telephone (716)754-8231.

Mr. Wagner informed me that his company has been designated by regulatory authorities as the only authorized operator of PCB incinerating facilities in the State of New York. Consequently he is receiving more material than his unit can handle. He requested a meeting with Monsanto to discuss a business arrangement whereby his company would serve as the collecting agency for scrap PCBs and transship the surplus liquid scrap to Monsanto's unit for incineration.

Mr. Wagner is extremely anxious to discuss the terms of such an arrangement. Will the business group contact Mr. Wagner regarding this matter.

W. B. Papageorge

/pd

DSW 175226

198

STLCOPCB4049747

W. B. Papageorge B2SK

September 15, 1975

BIO INTERNATIONAL, INC.

H. S. Bergen
T. L. Gossage/C. Paton/D. Wood
W. H. Duffey
R. E. Keller

W. R. Richard

Attached is a copy of the material David Wood received from Bio International, Inc. describing their process and facilities for the microbial degradation of polychlorinated biphenyls.

Similar information had been received from this company's licensor, Bioteknika International. I have attached copies of the related correspondence which was developed at that time. Mr. Byron Moe, president of Bioteknika, was very interested in discussing his system with us but after I had invited him to meet with us, we heard nothing further from Mr. Moe.

The representatives of Bio International have also requested a meeting with Monsanto representatives. Will the Research Department evaluate the attached information and arrange for further discussions with Bio International as it deems necessary.

The following Bio International individuals are available for further discussion:

Mr. Richard Ferry
Bio International, Inc.
Box 496
Woods Hole, Mass.
(617) 693-0903

Mr. John F. Chapple
Bio International, Inc.
3801 East Oakland Park Blvd.- Suite 407
Fort Lauderdale, Florida 33306
(305) 565-9428

W. B. Papageorge

/pd

DSW 175227

100

September 12, 1975

Dr. E. L. Simons
General Electric Co.
One River Road
Schenectady, New York 12345

Dear Dr. Simons:

Enclosed are the following reports:

"Tissue Residues from Subacute Oral Feeding of Polychlorinated Biphenyl Dielectric Fluids" by Robert G. Kaley, et al,

"Four-Day Static Fish Toxicity Studies with Aroclor 1221, Aroclor 5432, Aroclor 5442, Aroclor 5460, and MCS 1016 in Bluegills and Channel Catfish" -- IBT No. A9380,

"90-Day Subacute Oral Toxicity Study with MCS 1016 in Beagle Dogs" -- IBT No. C9887,

"Acute Vapor Inhalation Toxicity Study with MCS 1016 in Albino Rats" -- IBT No. N9379,

"90-Day Subacute Oral Toxicity Study with MCS 1016 in Albino Rats" -- IBT No. B9888,

"Toxicity, Reproduction and Residue Study with MCS 1016 in White Leghorn Chickens -- IBT No. J899.

Sincerely,

W. B. Papageorge

/pd

DSW 175228

196

STLCOPCB4049749

September 12, 1975

Dr. Russell Rulon
Cardiology Research Group
Alfred Building 9-455
Mayo Clinic
Rochester, Minnesota 55901

Dear Dr. Rulon:

Enclosed is a copy of the bulletin I offered to send you. I am also enclosing a Sample Request Form. If you will complete this and return to me, I will have the appropriate sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

T

DSW 175229

195

STLCOPCB4049750

September 11, 1975

Dr. Harvey P. Stein
Room 340 Park Building
NIOSH
5600 Fishers Lane
Rockville, Maryland 20852

Dear Dr. Stein:

Enclosed is the material which I promised to send you during our recent telephome conversation.

I hope you find it useful. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

J
Mfg. table
P
Q
1/

DSW 175230

194

STLCOPCB4049751

September 11, 1975

Mr. Peter L. Gove
Executive Director
Minnesota Pollution Control Agency
1935 West County Road B2
Roseville, Minnesota 55113

Dear Mr. Gove:

In response to your letter to Mr. Harold Bible of our company dated September 2, 1975, Monsanto Company currently sells polychlorinated biphenyls (PCBs) only as insulating fluid in sealed electrical equipment such as capacitors and transformers. The following approved customers have received shipments of PCBs in your state during the last three years.

General Electric Company
Corporate Headquarters
3135 Eastern Turnpike
Fairfield, Connecticut 06431

Westinghouse Electric Corporation
Gateway Center
Pittsburg, Pennsylvania 15222

I hope the above information is useful to you.

Very truly yours,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: H. S. Bergen
F. J. Fitzgerald
T. L. Gossage
Rodney Harris
R. G. Potter
E. J. Putzell
W. W. Withers/T. H. Bottini
D. Wood

DSW 175231

W. B. Papageorge St. Louis B2SK

September 10, 1975

J. S. Laws - 1100

PRODUCT ACCEPTABILITY PRACTICES

Claude E. Bird - 1100
W. A. Baker - 1100
Sharon Edwards - 1100
Louis L. Stalvey - 1100

Enclosed are copies of the Product Acceptability Practices I offered to send. Whenever I can help, please let me know.

W. B. Papageorge

/pd

DSW 175232

192

STLCOPCB4049753

W. B. Papageorge B2SK

September 10, 1975

PARA-DICHLOROBENZENE SAMPLE

J. C. Hutchison
Roy Sullivan
M. A. Terpstra

H. J. Horner - 1740

Attached is the Para-dichlorobenzene sample received from the West Virginia Department of Agriculture laboratories. Will you please have it analyzed using our normal method as well as the Parrbomb method for total assay.

W. B. Papageorge

/pd

DSW 175233

191

September 10, 1975

SANTOSITE - HAAG LABS

J. K. Orrell - 1180
J. F. Winkler - B3NC

This has already been baken care of. See attached.

W. B. Papageorge

/pd

DSW 175234

100

September 9, 1975

Dr. Thomas Elliott
Department of Microbiology
Hazleton Laboratories
9200 Leesburg Turnpike
Vienna, Virginia 22180

Dear Dr. Elliott:

Mr. David Wood has informed me of your request for a sample of Aroclor 1254. Enclosed is a Sample Request Form. If you will complete this form and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: D. Wood
bcc: T. E. Gossage
G. Roush

DSW 175235

September 5, 1975

Mr. A. T. McCord
Technical Staff
Environmental and Energy
Systems Department
Calspan Corporation
P. O. Box 235
Buffalo, New York 14221

Dear Mr. McCord:

In response to your letter of September 3, Mr. Papageorge is presently on vacation. I am enclosing various literature on polychlorinated biphenyls which I hope you find helpful.

If we can be of further service please let us know.

Sincerely,

Peggy Dean
Sec'y to W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemibals

J
M
ASTM Meth. D3304
II
JJ
HH

X
BB
LL

metals depend. paper

DSW 175236

STLCOPCB4049757

Re - Aroclor 1016

September 4, 1975

Dr. J. F. Thompson, Chief
Quality Assurance Section (MD-69)
Analytical Chemistry Branch
United States Environmental Protection Agency
Research Triangle Park, North Carolina 27711

Dear Dr. Thompson:

In response to your letter of August 27, I have the following information to offer:

Empirical Formula: $C_{12}H_7Cl_3$

Average M.W.: 257.5

Structure (see file copy)

Use: Electrical insulator

Manufacturers Assay: Approximately 41.5% chlorine

Our Medical Department is obtaining the toxicity information. When I receive this, I will forward it to you.

I hope you find the above information responsive to your request.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175237

187

STLCOPCB4049758

Peggy Dean B2SK

September 4, 1975

AROCLOR 1016 - toxicity

F. J. Johannsen - A2SC

Today I asked the plant to send you a sample of Aroclor 1016 in order to obtain toxicity data. As discussed on the telephone earlier this week, the information requested was acute oral LD_{50} (rats).

Peggy Dean
Sec'y to W. B. Papageorge

DSW 175238

156

September 2, 1975

Dr. Tomas Morales Cardona
University of Puerto Rico
Medical Sciences Campus
Dept. of Pharmacology
G.P.O. Box 5067
San Juan, Puerto Rico 00936

Dear Dr. Cardona:

In repponse to your letter of August 19, I am enclosing a Sample Request Form. If you will complete this form and return to me, I will arrange for a sample of Aroclor 1254 to be forwarded to you.

If we can be of further help please let us know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175239

STLCOPCB4049760

August

DSW 175240

August 29, 1975

Mr. Don Lokey
U. S. Environmental Protection Agency
OAQPS (ND12)
Research Triangle Park
North Carolina 27711

Dear Mr. Lokey:

Pursuant to your request to Mr. Jack Garrett in Monsanto's Medical Department, I am enclosing the American National Standard Guidelines for handling and disposal of askarels, which has replaced the NEMA Official Standards Proposal.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: J. T. Garrett

DSW 175241

154

STLCOPCB4049762

W. B. Papageorge B2SK

August 27, 1975

W. R. Richard
J. R. Savage

MICHIGAN ENVIRONMENTAL REVIEW
BOARD PCB HEARING

H. S. Bergen
T. L. Gossage
C. Paton
R. G. Potter
W. W. Withers
D. Wood

The Michigan Environmental Review Board, a citizens' committee, appointed by the governor to advise him on environmental matters, met on August 25, 1975, in Lansing, Michigan. One of the items on their agenda, copy attached, was the consideration of a Michigan State Department of Natural Resources recommendation that PCBs be banned or severely restricted in Michigan.

I spoke on the items indicated in a letter from Mr. Boyd Kinsley, a staff member of the MERB. A copy is attached. Many of the board members were not aware of our restricted sales program. It was evident that previous reports of the presence of PCBs in hand soap, Xerox toner, cutting oils, etc. were not based on analyses of samples but resulted from confused communications between industry and government representatives.

Dow Corning's representative spoke on the use of silicones as transformer fluids. He stated that his company was convinced that silicones were environmentally acceptable and although not as fire resistant as askarels, were still considered good alternatives. Six transformers were built by Westinghouse and filled with silicone fluid. Three of these transformers are installed in Dow Corning's plant in Midland, Michigan. When questioned on length of service he stated some of the units were two to three years old. Dow Corning will have in six months a capacity of 10 million pounds per year of transformer type silicone fluid which will be priced at about $10.00 per gallon.

Dow's representative spoke of "Product Stewardship" and claimed his company's butylated monochlorodiphenyl oxide was an alternate for PCBs in power capacitors. Acute toxicity and biodegradation studies indicate environmental acceptability. Chronic toxicity studies are scheduled as well as studies to determine reproduction, mutagenic teratogenic and carcinogenic effects. He

DSW 175242

183

tried to get some indication of timing for action by the state authorities. No committment was made by the MERB, but I got the impression he was trying to indicate Dow needed a one to two year period to get this product ready for commercial application. McGraw Edison, as you know, has filled some capacitors for field trial. (Ed Simons, G. E., tells me Aerovox has also asked for trial quantities from Dow).

Attempts were made by some members of the Board to pass resolutions regarding banning PCBs, restricting use of PCBs to closed systems, or banning all chlorinated hydrocarbons. None of these motions received a second. The chairman finally stated that the Department of Natural Resources would be asked for more information before the MERB would act on the matter.

W. B. Papageorge

/pd

DSW 175243

183

August 26, 1975

Ms. Helen Chong
Administrative Lab. Tech.
Parnassus Heights Clinical Laboratories
Suite 201 Parnassus Hts. Medical Bldg.
350 Parnassus Avenue
San Francisco, California 94117

Dear Ms. Chong:

In response to your letter of August 21, I am enclosing a Sample Request Form. If you will have this completed and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175244

182

August 26, 1975

Ms. Monica Holstein
1713 Cedar Street
Berkley, California 94703

Dear Ms. Holstein:

Enclosed is the Sample Request Form which I offered to mail you. If you will have this completed and signed by an authorized person at your university, and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If we can be of further help please let us know.

Sincerely,

Peggy Dean
Secretary to W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175245

181

STLCOPCB4049766

August 26, 1975

Mr. Clyde R. Wilson
Graduate Assistant
Department of Biological Sciences
Northern Illinois University
DeKalb, Illinois 60115

Dear Mr. Wilson:

In response to your recent letter, I am enclosing an article from the Encyclopedia of Chemical Technology. On the first page I have marked the paragraph which refers to foreign producers.

We have no specific knowledge of polychlorinated biphenyl imports. I suggest that you contact Mr. Thomas Kopp, Environmental Protection Agency, East Tower, Waterside Mall, 401 "M" Street, S. W., Washington, D. C. 40260 in regard to this information.

Also enclosed is Monsanto's Manufacture and Sales table which will indicate when various Aroclors were discontinued.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

P. S. I notice that your Sample Request Form is not signed. Please have it signed by an authorized person and return to me. I will then arrange for your samples to be forwarded.

DSW 175246

180

STLCOPCB4049767

August 25, 1975

Mr. Ronald Rusnak
Purchasing Agent
Lester Industries, Inc.
Sanford Evenchik, Ind. Eng.
25661 Cannon Road
Bedford Heights, Ohio 44146

Dear Mr. Rusnak:

In response to your letter of August 8, I am enclosing a Product Specification Sheet for Pydraul 312C.

I hope you find it helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: A. A. Johnson
D. L. Mellon

DSW 175247

179

STLCOPCB4049768

August 25, 1975

Mrs. Gay Contos
Versar, Inc.
6621 Electronic Drive
Springfield, Virginia 22151

Dear Mrs. Contos:

Enclosed is the PCB material I had offered to send. I hope you find it helpful. I will attempt to respond to those questions listed on your "thought stimulating" questionnaire as soon as possible.

Sincerely,

W. B. Papageorge

WBP:pd

M
WBP affidavit
HH
II
JJ
Metcalf degradation paper
MM
X

AA
CC
Z
U

"Tissue Residues from Subacute Oral Feeding of PCB of Dielectric Fluid by R. D. Kaley et a

August 25, 1975

Mr. Jim Haney
Bergstrom Paper Company
Bergstrom Road
Neenah, Wisconsin 54956

Dear Mr. Haney:

Enclosed are the basic documents from which I will speak at the August 28 and 29 hearings.

I hope you receive this in adequate time.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175249

177

STLCOPCB4049770

W. B. Papageorge B2SK

August 25, 1975

EPA QUESTIONNAIRE -- PCBs

H. S. Bergen
T. L. Gossage
D. B. Hosmer
P. S. Park
C. Paton
R. G. Potter
W. R. Richard
J. R. Savage
W. W. Withers
D. Wood

Attached is a copy of the questionnaire sent by EPA to over 80 users and suspected users of PCBs. Monsanto was not included in this mailing, presumably because EPA believes we are in good control and also because we have already supplied most of the information requested. EPA is attempting to make a PCB material balance for each location.

W. B. Papageorge

/pd

DSW 175250

176

W. B. Papageorge B2SK

August 25, 1975

W. R. Corey
K. W. Easley
R. G. Potter

EPA PCB STUDY -- VERSAR, INC.
WITH J. FAUCETT ASSOCIATES, INC.

H. S. Bergen
T. L. Gossage
D. B. Hosmer
W. R. Richard
J. R. Savage
W. W. Withers

Attached is an outline which I am told summarizes the scope of the PCB study being prepared by Versar and Faucett for EPA. Final report is due to EPA on October 31, 1975.

Also attached is a questionnaire which we have been asked to complete. Some of this information has been released to others in the past. Comments regarding our participation are requested before assignments are delegated to contributing individuals.

W. B. Papageorge

/pd

DSW 175251

175

W. B. Papageorge B2SK

August 25, 1975 R. G. Potter

PCBs

H. S. Bergen

The PCB situation in the U.S. has, in my opinion, reached the emotional turning point from which I see no real success irrespective of the resources committed or strategies devised by Monsanto to stay in the PCB business.

EPA is using PCBs to attempt to get highly desired legislation passed by Congress. Activities in New York and around the Great Lakes are creating pressures which will force EPA to arrive at effluent standards which will be unrealistic. I understand that the Bureau of Fisheries and Wildlife is preparing a report which implicates PCBs for aquatic reproduction problems throughout the U.S. Also, PCBs will be reported as being found in sport fish everywhere. This will have a decided impact on the sport fishing industry and its supporters. Dr. Renate Kimbrough is actively discussing her study with anyone who will listen.

Our customers have now reached the point at which they would be receptive to alternative solutions and are seeking leadership.

I strongly recommend Monsanto assume this leadership and, with key customer input, announce a program for an orderly phase-out of the manufacture and sale of PCBs. I suggest a two year program be designed with flexibility for reducing the time period required for execution to one year in the event the shorter period is required.

W. B. Papageorge

/pd

DSW 175252

174

August 21, 1975

Mr. E. P. Schulz
Development Director
S & H Analytical Services Inc.
51 Weed Avenue
Staten Island, New York 10306

Dear Mr. Schulz:

In response to your letter of August 8, I am enclosing an old technical bulletin on Aroclor Plasticizers. I believe this should contain the information you are seeking.

I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: J. H. Orem - B3ND
P. R. Graham
J. J. McNamara - 1650
C. Paton

DSW 175253

173

STLCOPCB4049774

W. B. Papageorge B2SK

August 21, 1975

H. S. Bergen
W. R. Richard

PRODUCT INFORMATION -- NIOSH

D. R. Dill - Q2C

Enclosed are forms which the National Institute of Occupational Safety and Health (NIOSH) has requested that we complete. These should be prepared as described in the attached letter and instruction sheet. A sample form is also enclosed.

The information requested is for Scripset 520 and Scripset 808. Can you assist in completing the attached forms?

W. B. Papageorge

/pd

DSW 175254

172

STLCOPCB4049775

W. B. Papageorge B2SK

August 21, 1975

H. S. Bergen
W. R. Richard

PRODUCT INFORMATION -- NIOSH

D. R. Miller - T3F

Enclosed is a form which the National Institute of Occupational Safety and Health (NIOSH) has requested that we complete. This should be prepared as described in the attached letter and instruction sheet. A sample form is also enclosed.

The information requested is for Coolanol 20. Can you assist in completing the attached form?

W. B. Papageorge

/pd

DSW 175255

171

STLCOPCB4049776

W. B. Papageorge B2SK

August 21, 1975

H. S. Bergen
W. R. Richard

PRODUCT INFORMATION - NIOSH

L. R. Stark - W4A

Enclosed is a form which the National Institute of Occupational Safety and Health (NIOSH) has requested that we complete. This should be prepared as described in the attached letter and instruction sheet. A sample form is also enclosed.

The information requested is for Pydraul 230C. Can you assist in completing the attached form?

W. B. Papageorge

/pd

DSW 175256

STLCOPCB4049777

W. B. Papageorge B2SK

August 21, 1975

H. S. Bergen
W. R. Richard

PRODUCT INFORMATION -- NIOSH

John Herber - T3G

Enclosed are forms which the National Institute of Occupational Safety and Health (NIOSH) has requested that we complete. These should be prepared as described in the attached letter and instruction sheet. A sample form is also enclosed.

The information requested is for the following products: Skydrol 500C, Skydrol 500B, Skydrol 500A and Skydrol 7000.

Can your office assist in completing the attached forms?

W. B. Papageorge

/pd

DSW 175257

1 - 9

STLCOPCB4049778

August 20, 1975

Mrs. Dorothy VanDelinde
Laboratory Services Division
West Virginia State Department
of Agriculture
East Wing, State Capitol Bldg.
Charleston, West Virginia 25305

Dear Mrs. VanDelinde:

Attached is a copy of an analytical procedure for assaying paradichlorobenzene, using gas-liquid-chromatography.

In using this method we have determined that the para-dichlorobenzene content of our Santochlor is essentially 100 per cent. If you should decide to use this method, we would appreciate very much if you would send us a sample of the same material to enable us to compare values with you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: Roy Sullivan
H. J. Horner
M. A. Terpstra

304 - 348 - 2228
Ext. 2582

DSW 175258

Sent W.G.K method T - 1206

168

STLCOPCB4049779

W. B. Papageorge B2SK

August 20, 1975

PCBs - EPA

H. S. Bergen

D. R. Bishop
K. W. Easley
T. L. Gossage
D. B. Hosmer
J. P. Mieure
P. S. Park
R. G. Potter
W. R. Richard
J. R. Savage
W. W. Withers
B. Wood
P. L. Wright

1) On Saturday, August 16, the EPA mailed questionnaires to known and suspected users of PCBs. Questions relating to location of use, type of use, amounts consumed, amounts recovered and recycled, amounts destroyed, amounts imported must be answered for the years 1971 to year-to-date. Basis for this request is Section 308, P.L. 92-500.

2) Senator Edward Kennedy, Democrat, Massachusetts, has sent a wire to EPA Administrator Russell Train calling for action on PCBs.

3) The EPA group which met with Mr. Train on Thursday, August 14 is scheduled to meet with him again on Friday, August 22 to review a press statement scheduled for release on Monday, August 25.

W. B. Papageorge

/pd

DSW 175259

August 19, 1975

Mr. Walter J. Hunt
U. S. Environmental Protection Agency
East Tower, Waterside Mall
401 "M" Street, S. W.
Washington, D. C. 20460

Dear Walt,

I was pleased when I was told that Cece had called the house and Sophia was able to talk with her. I feel personally remiss and apologize that as a result of ppor communications, misunderstanding, press of time and telephone busy signals, I did not call Joe's house in time to talk to you.

I hope you enjoyed your stay in St. Louis and hope that I can get to see you in Washington shortly after you return.

Regards,

DSW 175260

STLCOPCB4049781

W. B. Papageorge B2SK

August 19, 1975

SCRIPSET 540 --
RELEASE OF MATERIAL
Memo DRD to JRS, 7/25/75

Dale R. Dill
J. R. Savage

H. S. Houseworth - 1700
K. A. Pollart - Q1E
E. M. Potter
M. J. Redella
W. R. Richard
L. C. Shelton - 5040
R. A. Sipes

The reference memo contains your recommendation for the release of Scripset 540 which does not meet our Finished Product Specification. Inference is made that some of this material can be shipped to a chstomer who appearars to be less discriminating than others. I would like to remind you that release of off-spec material is permissable only under certain conditions. I have attached the appropriate page from Product Acceptability Practice No. 3 which applies. Release of this material may occur if one or both of the conditions described under 2(a) and 2(b) are met.

W. B. Papageorge

/pd

DSW 175261

165

STLCOPCB4049782

August 19, 1975

202-245-3114

Dr. Raymond E. Shapiro
Bureau of Foods, HFS-108
Food and Drug Administration
200 "C" Street, S. W.
Washington, D. C. 20204

Dear Dr. Shapiro:

Enclosed is the report entitled "Tissue Residues from Subacute Oral Feeding of Polychlorinated Biphenyl Dielectric Fluids" by R. G. Kaley, et al, which I offered to send you. You will note that this rpport was submitted on August 15, 1975, to the editors of The Bulletin of Environmental Contamination and Toxicology for future publication and is subject to further review.

I hope you find this report useful. If I can be of further service please let me know.

Wincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175262

164

STLCOPCB4049783

W. B. Papageorge B2SK

August 19, 1975

SCRAP PCBs -
IN-TRANSIT LEAKAGE

E. M. Potter - B2NK

H. S. Bergen
T. L. Gossage
T. H. Bottini
A. E. Leisy - 1740
C. Paton
J. R. Savage
B. R. Williams - 1740
W. W. Withers
D. Wood

We have recently had a rash of incidents in which scrap PCBs, while enroute to our incinerator, have leaked from their containar and contaminated other cargo shipped in the same truck.

The Marketing Department has taken steps to inform our customers of the importance of selecting durable containers, properly sealed, which can withstand the journey. Our customers have also been informed that decontamination costs resulting from any spills will be charged to them.

Plant personnel are effectively cleaning contaminated truck beds and segregating contaminated cargo. A problem still remains, however, regarding the prompt and proper disposal of the confiscated cargo. Dave Wood, Tom Bottini and I have attempted to develop a procedure for disposing of such material and we continually conclude that this appears to be an area that requires the direct assistance of the Distribution Department, MICC and/or Corporate. We would appreciate recommendations from appropriate Distribution managers.

W. B. Papageorge

/pd

DSW 175263

1 / 2

STLCOPCB4049784

August 19, 1975

Mr. Jack R. Anderson
Chemical Division
U. S. International Trade Commission
701 "E" Street, N. W.
Washington, D. C. 20436

Dear Mr. Anderson:

Enclosed is the production information for polychlorinated biphenyls which you requested. I hope you find the information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

202 - 523-0495

DSW 175264

162

STLCOPCB4049785

August 19, 1975

Mr. Richard R. Dingeman
Department of Biology
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Dingeman:

In response to your request of August 7, I am forwarding more PCB articles. I hope you find them useful and informative.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175265

STLCOPCB4049786

W. B. Papageorge St. Louis B2SK

August 19, 1975

PHOSPHORUS OXYCHLORIDE
TEST METHODS

J. K. Orrell - 1180

Enclosed are the test methods for Phosphorus Oxychloride which you requested for Dow.

W. B. Papageorge

/pd

DSW 175266

160

August 18, 1975

Mr. W. L. Schofield
Division Trainer
Perkin Chemicals Division
Polaroid Corporation
1265 Main Street (Bldg. 6)
Waltham, Massachusetts 02154

Dear Mr. Schofield:

In response to your letter of August 8, I am enclosing Monsanto Technical Bulletin 1-35 on Phosphorus Oxychloride.

I hope you find it useful. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175267

STLCOPCB4049788

August 18, 1975

Mr. A. Reisch, Jr.
E. M. Sergeant Pulp and
Chemical Co., Inc.
7 Day Street
New York, New York 10007

Dear Mr. Reisch:

In response to your letter of July 31, I am enclosing a Product Specification Sheet and a Material Safety Data Sheet for Monsanto's Santosite (sodium sulphite).

The D.O.T. classification for this product is "Sodium sulfite, crude or unrefined."

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty and Process Chemicals

WBP:pd
bcc: J. F. Winkler

DSW 175268

W. B. Papageorge B2SK

August 18, 1975

T. L. Gossage
A. R. Hempel

SALES SPECIFICATIONS -
PROFILE SHEETS

J. A. Hayes
J. C. Hutchison
C. Paton
R. F. Sellew
F. G. Sutton
J. F. Winkler

Attached is a draft of a Product Data Sheet which the Detergents and Phosphates Division is considering for possible use.

May I have your comments relative to application for our products?

W. B. Papageorge

/pd

DSW 175269

157

STLCOPCB4049790

W. B. Papageorge B2SK

August 18, 1975

PCB SHIPMENTS

T. H. Bottini
E. M. Potter
W. W. Withers
D. Wood

H. J. Horner - 1740
A. E. Leisy - 1740
R. H. Munch
C. Paton
J. R. Savage

In order to comply with the provisions of our marketing agreements with our customers who purchase polychlorinated biphenyl products, we must be certain that our products, when shipped, are within sales specifications and that the containers, both tank vehicles and drums, are correctly loaded, sealed and are not leaking.

The chief chemist, as provided in Product Acceptability Practice No. 3, should assure himself that no approvals are given for the release of material that does not meet specifications. Manufacturing and shipping management should develop a procedure which assures that containers leaving the plant are acceptable and some simple means should be devised whereby a responsible individual can document his release of the shipment.

W. B. Papageorge

/pd

DSW 175270

156

STLCOPCB4049791

August 18, 1975

Mr. J. Duffy
J. F. Henry Chemical Co.
245 Park Avenue
East Rutherford, New Jersey 07073

Dear Mr. Duffy:

In response to the inquiry from the Nestle Company, I wish to inform you that we do not use the electrolytic diaphragm manufacturing process to produce our Caustic Potash. Since no asbestos is involved in our process, we have not conducted any analysis to determine asbestos contamination.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Terry Finan/New York
bcc: J. F. Winkler

DSW 175271

155

W. B. Papageorge B2SK

August 18, 1975

PCBs

Memo GR Jr. to HSB, 7/30/75

G. Roush, Jr.

H. S. Bergen
D. R. Bishop
G. J. Levinskas
R. G. Potter
W. W. Withers

Attached is a proposed draft of the toxicity summary to be included in a Monsanto statement on PCBs.

This version includes all comments received from the Business Group. It acknowledges awareness of Dr. Kimbrough's work, describes our re-examination of specimens from our study and concludes that our studies do not show carcinogenicity. It does not attempt to do the rationalization for the regulatory agencies nor does it refer to any agency interpretations or actions.

W. B. Papageorge

/pd

DSW 175272

154

August 15, 1975

Mr. W. A. Scott
Fairfield and Ellis, Inc.
225 Franklin Street
Boston, Massachusetts 02110

Dear Mr. Scott:

Enclosed is the literature I offered to mail you. I hope you find it useful and informative. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

~~II~~
HH
JJ
metcalf degrad. paper
W

DSW 175273

153

STLCOPCB4049794

W. B. Papageorge B2SK

August 15, 1975

PCB REVIEW

Memo HSB to FJF, 7/17/75

H. S. Bergen

D. Bishop
D. L. Eby
T. H. Bottini
R. G. Potter
G. Roush
W. Withers

Attached is the proposed "Environmental Presence" portion of the Monsanto statement which is being prepared as outlined in the reference memo. This version incorporates all comments received.

W. B. Papageorge

/pd

DSW 175274

15.

W. B. Papageorge B2SK

August 15, 1975

HYDROCHLORIC ACID
CIBA-GEIGY

L. D. Hatch - 1650
H. C. Carder
R. Perry
P. R. Parker - 1290
J. P. Roarty - 1290
J. B. Willmore - 1290

J. F. Winkler - B3NC

The plant can meet Ciba-Geigy's specification for Hydrocloric Acid. A copy of the approved spec is attached. Les Hatch has the original which he may forward to Ciba-Geigy.

W. B. Papageorge

/pd

DSW 175275

151

August 15, 1975

Mr. James M. Grady
Director of Purchases
Morton Salt Company
110 North Wacker Drive
Chicago, Illinois 60606

Dear Mr. Grady:

In response to your letter of August 6 requesting the execution of a "General and Continuing Commodity Guaranty" form, I wish to inform you that Monsanto's brand of sodium sulfite, anhydrous is not food grade; therefore I cannot supply you with the guaranty you request.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: J. F. Winkler

DSW 175276

150

STLCOPCB4049797

W. B. Papageorge B2SK

August 15, 1975 C. Paton

TOXICITY STATEMENT
SANTOSAFE W/G 15

A. A. Johnson

Attached is a toxicity statement for Santosafe W/G 15.

This information may be shared with anyone who requests it. Always use the entire statement to avoid misunderstanding which could occur when statements are taken out of context.

W. B. Papageorge

/pd

DSW 175277

149

STLCOPCB4049798

W. B. Papageorge B2SK

August 15, 1975

PCB REVIEW

Memo HSB to FJF, 7/17/75

H. S. Bergen
D. R. Bishop
T. H. Bottini
G. L. Bratsch
F. J. Fitzgerald
R. G. Potter
G. Roush
W. W. Withers

A meeting will be held to review the status of the plan outlined in the reference memo on Wednesday, August 27, at 10 a.m. in Room B-275.

W. B. Papageorge

/pd

DSW 175278

148

STLCOPCB4049799

W. B. Papageorge B2SK

August 15, 1975

H. S. Bergen
O. H. Kortjohn

BALLAST DISPOSAL

W. R. Corey

Ollie Kortjohn informs me that during 1974, 2500 - 3000 ballast units were replaced in the lighting fixtures at the Monsanto general office complex.

The failed units are placed in the normal trash "dumpster" containers and eventually are taken, along with all other waste, to one of two licensed landfills. One is located on Adie Road and the other is located in Earth City.

The use of licensed landfills for capacitor disposal is consistent with the guidelines issued by the American National Standards Institute and has the unofficial acceptance of the EPA.

W. B. Papageorge

/pd

DSW 175279

147

STLCOPCB4049800

August 14, 1975

Dr. J. M. Comarmy
Research Department
AC Spark Plug Division
General Motors Corporation
Flint, Michigan 48556

Dear Dr. Comarmy:

Mr. Kenneth McHugh informed me of your need for small quantities of Monsanto's Aroclors. I regret to inform you that Monsanto has discontinued the manufacture of many of its Aroclor products; however samples of Aroclor 1254 are still available.

I am enclosing a Sample Request Form. If you will complete this and return to me, I will have a sample forwarded to you.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175280

146

STLCOPCB4049801

August 14, 1975

Dr. Veronica Maher
Michigan Cancer Foundation
110 East Warren Avenue
Detroit, Michigan 48201

Dear Dr. Maher:

Enclosed is the Sample Request Form I offered to send you. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The materials available are Aroclors 1242, 1254, 1221 and 1016.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175281

14

STLCOPCB4049802

August 14, 1975

Mr. Jeffrey Tannenbaumg
The Wall Street Journal
22 Cortlandt Street
New York, New York 10007

Dear Mr. Tannenbaumg:

Enclosed is the material I offered to mail you. I hope you find it both informative and useful. I look forward to continuing our discussion after you have had an opportunity to review it.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

E
P M
Q Properties of Aroclor 1016
V ASTM D 3304
H J
2 Mfg table + 1st quart. 1975
4 WBP affidavit
C
DD NN
FF

metcalf degrad. paper
II
KK
BB
LL
W
X
HH
JJ

DSW 175282

144

STLCOPCB4049803

August 14, 1975

National Academy of Sciences
Printing & Publishing Office
2101 Constitution Avenue
Washington, D. C. 20418

Gentlemen:

Enclosed is Monsanto's check for $20.00 in payment for the Food Chemicals Codex book. Please send one copy of this book to me, addressed as follows:

W. B. Papageorge (B2SK)
Manager, Product Acceptability
Specialty & Process Chemicals
Monsanto Company
800 North Lindbergh
St. Louis, Missouri 63166

Sincerely,

W. B. Papageorge

/pd

DSW 175283

143

STLCOPCB4049804

W. B. Papageorge B2SK

August 13, 1975

PCBs - EPA - PRESS RELEASE

H. S. Bergen

D. Bishop
K. W. Easley
T. L. Gossage
D. B. Hosmer
J. P. Mieure
P. S. Park
R. G. Potter
W. R. Richard
J. R. Savage
W. W. Withers
D. Wood
P. L. Wright

Russell Train, Administrator, EPA, is expected to issue a press statement after 3:00 p.m. Thursday, August 14. The statement is reported to compliment Monsanto's intentions to control the release of PCBs to the environment but will also state that in spite of Monsanto's efforts, there is growing evidence that control has not been achieved and that the agency must have the Toxic Substances Control Act to prevent undesirable materials from entering the environment.

Mr. Train's statement will re-emphasize the EPA's objections to the use of PCBs in all uses except as a dielectric in sealed units. It will again emphasize the need for stringent control to prevent the entry of PCBs into the environment. It will also contain a statement that industry should make every effoft to find alternative fluids that are environmentally safe, and the ultimate objective will be a final phase-out of all PCB uses.

It appears that Mr. Train's schedule will not permit a press conference. It is anticipated that the EPA statement will be used on the late TV evening news programs and, of course, in the morning newspapers, particularly the Washington-Post.

W. B. Papageorge

/pd

DSW 175284

147

W. B. Papageorge B2SK

August 13, 1975

CHEMAGRO - P_2S_5

Memo WBP to MEW, 8/12/75

H. J. Horner - 1740

E. Layton - 1740
W. Smull - 1740
M. E. Webb - 1740

Attached is further information on the reference topic.

W. B. Papageorge

/pd

DSW 175285

140

STLCOPCB4049806

August 13, 1975

PCB Ad Hoc Committee:

Russell Train, Administrator, EPA, is expected to issue a press statement after 3:00 p.m. Thursday, August 14. The statement is reported to compliment industry's intentions to control the release of PCBs to the environment but will also state that in spite of industry's efforts, there is growing evidence that control has not been achieved and that the agency must have the Toxic Substances Control Act to prevent undesirable materials from entering the environment.

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It appears that Mr. Train's schedule will not permit a press conference. It is anticipated that the EPA statement will be used on the late TV emening news programs and, of course, in the morning newspapers, particularly the Washington-Post.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen
David Wood
bcc: Dr. E. L. Simons/GE

DSW 175286

141

STLCOPCB4049807

August 13, 1975

Mr. L. P. Voigt, Secretary
Department of Natural Resources
State of Wisconsin
Box 450
Madison, Wisconsin 53701

In Re: 3210-3

Dear Mr. Voigt:

I am pleased to inform you that I will be able to participate in the public hearings scheduled for August 28-29, 1975, and will be prepared to discuss the topic as listed in your proposed agenda.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175287

139

STLCOPCB4049808

August 12, 1975

Dr. Rudolph J. Jaeger
Harvard School of Public Health
655 Huntington Avenue
Boston, Massachusetts 02115

Dear Dr. Jaeger:

I have received your completed Sample Request Form and arrangements have been made to send the Aroclor 1254 to you. Due to environmental considerations, Monsanto no longer manufactures Aroclor 1232 and our sample supply has been depleted.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175288

138

August 12, 1975

Dr. Richard Telroy
Batelle Corporation
Biology Department
P. O. Box 999
Richland, Washington 99352

Dear Dr. Telroy:

Mr. Gary Graf informed me of your request for samples of Monsanto's Aroclor. The available materials are Aroclors 1242, 1254, 1221 and 1016.

I am enclosing a Sample Request Form. If you will complete this and return to me, I will have the appropriate samples forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP: pd

cc: Gary Graf

DSW 175289

13

STLCOPCB4049810

W. B. Papageorge B2SK

August 12, 1975

CHEMAGRO - P_2S_5
Memo MEW to WBP, 7/9/75

M. E. Webb - 1740

W. S. Clark - 1180
H. Horner - 1740
E. Layton - 1740
J. A. Hayes - B2NC
W. Smull - 1740
R. P. Sullivan - G4NN

Will you please arrange to have samples of P_2S_5, preferably those mentioned in the reference memo, mailed to Chemagro for a corroborative analysis study.

The address is as follows:

8400 Hawthorn Road
Kansas City, Missouri 64120

W. B. Papageorge

/pd

DSW 175290

136

STLCOPCB4049811

Pink

August 12, 1975

Mr. Robert Hallman
Deputy Commissioner and
General Counsel
State of New York
Department of Environmental
Conservation
Albany, New York 12233

Dear Mr. Hallman:

Confirming our August 8 telephone conversation, the Monsanto Company currently sells polychlorinated biphenyls (PCBs) only as insulating fluids in sealed electrical equipment such as capacitors and transformers.

In addition to the General Electric Company, the following are approved customers with operations located in your state:

Axel Electronics, Div. of
General Signal Corporation
280 Park Avenue
New York, New York 10017

R. F. Interonics, Inc.
Div. of KDI Navcor Corporation
100 Pine Aire Drive
Bay Shore, New York 11706

Niagara Transformer Corporation
1747 Dale Road
P. O. Box 233
Buffalo, New York 14225

York Capacitor Corporation
104 South Fourth Street
Brooklyn, New York 11217

DSW 175291

135

STLCOPCB4049812

In addition to the foregoing, the customer listed below is being reconsidered for addition to our approved list:

Universal Voltronics
27 Radio Circle Drive
Mt. Kisco, New York 10549

I hope the above information is useful to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: H. S. Bergen
F. J. Fitzgerald
Rodney Harris
R. G. Potter
E. J. Putzell
W. W. Withers/T. H. Bottini

DSW 175292

STLCOPCB4049813

August 11, 1975

Mr. Mark Shulman
670 Bruce Drive
East Meadow, New York 11554

Dear Mr. Shulman:

In response to your letter of August 1, I am enclosing various literature in regard to polychlorinated biphenyls, including an old technical bulletin on Aroclors. Currently Monsanto manufactures only Aroclors 1242, 1254, 1221 and 1016,

I hope you find this material useful. If I can be of further help, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

E J T KK FF HH II

JJ

metcalf paper

X

DSW 175293

13

STLCOPCB4049814

W. B. Papageorge B2SK

August 11, 1975

SANTOBRITE - FDA REGULATION

Call Report - C. F. Seger, 7/28/75

Mike Marshall

In regard to the question in the reference call report, Santobrite is approved for use as a preservative in adhesives in 21 CFR, Section 121.2520.

W. B. Papageorge

/pd

DSW 175294

133

STLCOPCB4049815

August 11, 1975

Mr. Ernest Mosbaek
Jack Faucett Associates
5454 Wisconsin Avenue
Chevy Chase, Maryland 20015

Dear Mr. Mosbaek:

Enclosed is the literature I offered to mail you. I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

W

II

HH

JJ

Metcalf Degradation paper

DSW 175295

STLCOPCB4049816

August 8, 1975

Mr. Axel Lind
Control Data Corporation
7801 Computer Avenue
Minneapolis, Minnesota 55435
Mail Station 052

Dear Mr. Lind:

Enclosed is the literature I offered to send you. I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175296

121

STLCOPCB4049817

August 7, 1975

Dr. L. J. Bailin
Dept. No. 5235
Building 204
Lockheed
Palo Alto Research Laboratory
3251 Hanover Street
Palo Alto, California 94304

Dear Dr. Bailin:

Enclosed is the Sample Request Form I offered to send you. If you will complete this and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclor 1221, Aroclor 1016, Aroclor 1242 and Aroclor 1254.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175297

130

STLCOPCB4049818

August 7, 1975

Mr. Regis A. Mika
Facility Chemical Coordinator
IBM Corporation
Department 722-001-3
6300 Diagonal Highway
Boulder, Colorado 80302

Dear Mr. Mika:

In response to your letter of July 30, I am enclosing Material Safety Data Sheets for Santotracs 30, 40, 50 and 70.

All of these Santotracs are classified by the Department of Transportation as "lubricating oil other than petroleum." No hazardous warnings are included.

I hope this information is useful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175298

129

STLCOPCB4049819

W. B. Papageorge B2SK

August 7, 1975

93% SULFURIC ACID
GENERAL ELECTRIC SPECIFICATION

H. C. Carder
A. G. Corey - Bircham Bend
L. D. Hatch - 1650
N. G. Hobbs - 1410
W. M. Mees - 1410
R. Perry, Jr. - Q3C

J. A. Hayes - B3NC

The Everett plant has reviewed G.E.'s specification for Sulfuric Acid for their Selkirk, New York location and reports that the requirement for Color cannot be met. Our specification calls for 100 APHA, max. Can G. E. accept a higher color?

W. B. Papageorge

/pd

DSW 175299

128

STLCOPCB4049820

August 7, 1975

Mr. Dan Rayburn
Sanitation Superintendent
P. O. Box 99
Ventura, California 93001

Dear Mr. Rayburn:

In response to your letter of July 29, I am enclosing a Sample Request Form. If you will complete this form and return to me, I will have the appropriate samples forwarded to you. The available materials are Aroclor 1221, Aroclor 1016, Aroclor 1242 and Aroclor 1254.

I am also enclosing the American Society for Testing and Materials Method D 3304 which is identical to the Monsanto method you requested.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175300

127

STLCOPCB4049821

August 7, 1975

Mr. Mowry Smith
Menasha Corporation
P. O. Box 367
Neenah, Wisconsin 54956

Dear Mowry:

Enclosed is the PCB information which I offered to send. I believe you will find the Interdepartmental Task Force report effectively summarizes the PCB situation. I have also attached a list of questions which could be asked in any discussion relating to PCBs.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

J
X
AA
CC

DSW 175301

126

STLCOPCB4049822

POLYCHLORINATED BIPHENYLS (PCBS)

1. What are PCBs? Are all PCBs alike?
2. What are Aroclors, askarels, Pyranols, Inerteens, Therminols, Pydrauls?
3. What were PCBs used for prior to 1970?
4. What are current uses?
5. Why did Monsanto restrict the sales of PCBs?
6. Why continue selling PCBs to dielectric applications?
7. How did PCBs get into the environment?
8. How are PCBs in the environment measured? How accurate are the methods?
9. What effects do PCBs have in the environment?
10. Do PCBs degrade in the environment?
11. Are there any methods for recovering PCBs from water? Solids?
12. Has any U. S. agency issued regulations regarding PCBs? What is the situation worldwide?
13. What disposal methods are recommended?
14. Are PCBs imported in the U. S.?
15. How many pounds are produced annually by Monsanto? How many were produced prior to implementation of restricted sales policy?

DSW 175302

W. B. Papageorge St. Louis B2SK

G. Roush

August 7, 1975

WHO- PCB MEETING

Memo ST to PJAM, 7/31/75

S. Turover - Brussels

We would like to see the report mentioned in the reference memo. May we have a copy?

W. B. Papageorge

/pd

DSW 175303

125

STLCOPCB4049824

W. B. Papageorge B2SK

August 7, 1975

PCBs - EPA

H. S. Bergen

D. Bishop
K. W. Easley
T. L. Gossage
D. B. Hosmer
J. P. Mieure
P. S. Park
R. G. Potter
W. R. Richard
J. R. Savage
W. W. Withers
D. Wood
P. L. Wright

Thomas Kopp, Office of Toxic Substances, EPA, called to inform me of the following:

1) EPA is conducting a meeting on August 8 with representatives of other Federal agencies and departments to demphasize the need for proper handling of PCBs in government installations and to recommend that the ANSI C-107 guidelines be followed. Also, government specifications will be modified to include reference to absence of PCBs in items (other than capacitors and transformers) purchased by the federal government.

2) On August 11 a meeting of EPA representatives will be held to review the current PCB situation. The meeting will cover both technical and legal considerations, including the probable existence of a "black market" in used PCBs, ERDA-NBS transformer fluid study, and the use of alternative fluids in small capacitors. An attempt will be made to get information from all industry suspected of discharging PCBs by using Section 308 of the Federal Water Pollution Control Act (PL 92-500). If industry does not respond, EPA will resort to other legal means to get the information.

3) On August 12 the Federal Interdepartmental Task Force on PCBs will be reassembled at EPA's call to review PCBs. EPA will attempt to get support from other agencies in controlling losses of PCBs to the environment.

4) Russell Train, Administrator, EPA, still plans to issue a press release between August 15 and August 22. No decision has been made regarding issuing this release with or without a press conference.

5) There is no intent on EPA's part to "tar and feather" Monsanto.

DSW 175304

124

6) Doris Ruopp and Vincent DeCarlo, Office of Toxic Substances, EPA, will present a paper entitled "Environmental Levels of PCBs" at a WHO/EPA/ACS meeting in September. Copies are not yet available. Kopp indicated that the data gathered thus far does not indicate a drop in PCB levels in the U. S. environment. In some instances levels appear to be increasing.

W. B. Papageorge

/pd

STLCOPCB4049826

August 7, 1975

PCB Ad Hoc Committee:

Thomas Kopp, Office of Toxic Substances, EPA, called to inform me of the following:

1) EPA is conducting a meeting on August 8 with representatives of other federal agencies and departments to emphasize the need for proper handling of PCBs in government installations and to recommend that the ANSI C-107 guidelines be followed. Also, government specifications will be modified to include reference to absence of PCBs in items (other than capacitors and transformers) purchased by the federal government.

2) On August 11 a meeting of EPA representatives will be held to review the current PCB situation. The meeting will cover both technical and legal considerations, including the probable existence of a "Black market" in used PCBs, ERDA-NBS transformer fluid study, and the use of alternative fluids in small capacitors. An attempt will be made to get information from all industry suspected of discharging PCBs by using Section 308 of the Federal Water Pollution Control Act (PL 92-500). If industry does not respond, EPA will resort to other legal means to get the information.

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4) Russell Train, Administrator, EPA, still plans to issue a press release between August 15 and August 22. No decision has been made regarding issuing this release with or without a press conference.

DSW 175306

123

STLCOPCB4049827

5) Doris Ruopp and Vincent DeCarlo, Office of Toxic Substances, EPA, will present a paper entitled "Environmental Levels of PCBs" at a WHO/EPA/ACS meeting in September. Copies are not yet available. Kopp indicated that the data gathered thus far does not indicate a drop in PCB levels in the U. S. environment. In some instances levels appear to be increasing.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen
David Wood

bcc: Dr. E. L. Simons/GE

DSW 175307

August 7, 1975

Dr. Sergio Iturri
Universidad de Chile
Facultad De Ciencias
Depto. De Biologia
Casilla 653
Santiago, Chile

Dear Dr. Iturri:

In response to your letter of August 1, our plant informs me that your sample was shipped via Jet Airlines and the shipper number is S010830D. I believe this information should be sufficient to enable you to claim your package.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175308

121

STLCOPCB4049829

August 5, 1975

Mr. Steve Green
Seattle Post Intelligence
521 Wall Street
Seattle, Washington 98121

Dear Mr. Green:

Enclosed is the material I had offered to send you. Ifhope you find it informative. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

BB
AA
CC
7-16-73 Fed. Reg.

LL
U
Properties of Aroclor 1016 & 125
ASTM D-3304

T

E HH mfg. table W
J JJ P II X
Y Z Q metcalf degrad paper
V KK EE

DSW 175309

120

STLCOPCB4049830

W. B. Papageorge B2SK

August 4, 1975

SAFETY AND ENVIRONMENTAL REVIEW
TALL OIL PRODUCTS
Memo DKT to EPW, 7/23/75

D. K. Tippey - 1670

F. M. Cleary - 1670
P. O. DeGarmo
J. R. Savage
S. L. Zollmann - 1670

In the reference memo you asked Elmer Wheeler if EC-201 assessment sheets have been prepared for the listed tall oil products.

As you know, the intent of preparing assessment sheets is to make certain we do not introduce into commerce products which could cause environmental or safety problems. In this case we are dealing with a special situation in which materials are shipped only to Emery. Emery is then responsible for the products which generate from its process.

Since we are not shipping a completely unknown material to Emery, I recommend that in this case we forego the completion of EC-201 sheets.

W. B. Papageorge

/pd

DSW 175310

STLCOPCB4049831

W. B. Papageorge B2SK

August 4, 1975

R. E. Bilger
W. K. Johnson
R. F. Sellew
P. L. Wright

MALEIC ANHYDRIDE
90-DAY ANIMAL STUDY

G. J. Levinskas

Confirming our discussion, the information we received from Dow relating to a recent 90-day rat feeding study will not be reviewed with other Maleic Anhydride producers until the FDA publishes a notice that Dow's petition for approval of the semi-rigid resin containing Maleic Anhydride has been filed.

Once the notice is published, the test results automatically are in the public domain and we can openly discuss Dow's information.

I strongly recommend that discussions be held as soon after the notice is published as is practical.

W. B. Papageorge

/pd

DSW 175311

118

STLCOPCB4049832

W. B. Papageorge B2SK

August 4, 1975

MALEIC ANHYDRIDE
TENNESSEE EASTMAN

H. C. Carder
R. A. Geisman - 1740
E. D. Malone - 1740
M. E. Mayberry
R. F. Sellew
F. Sturm - 1070

R. F. Sellew - B3NC

The plant has indicated that we could probably meet Tennessee Eastman's preliminary spec for Maleic Anhydride. Ray Geisman has expressed some concern relating to the "Esterification Color" test and proposes that we recommend a "Stability to Heat" requirement. A copy of Monsanto's test 118-80148a is attached.

Will someone review this recommendation with Tennessee Eastman?

W. B. Papageorge

/pd

DSW 175312

117

STLCOPCB4049833

August 4, 1975

Mr. Richard R. Dingeman
Department of Biology
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Dingeman:

In response to your request of July 30, I am enclosing information which I hope you find helpful in your research work. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBPPpd

ASTM D-3304

E

T

J

X

DD

DSW 175313

116

STLCOPCB4049834

August 4, 1975

Mr. Eric Garshick
Technology Division
GCA Corporation
Burlington Road
Bedford, Massachusetts 01730

Dear Mr. Garshick:

Enclosed is the information on Maleic Anhydride, Phthalic Anhydride and Adipic Acid which you requested.

I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: Bruce Heckenberg

(Material Safety Data Sheets for each product also sent)

DSW 175314

115

STLCOPCB4049835

August 4, 1975

Dr. Ronald Parejko
Department of Biology
Northern Michigan University
Marquette, Michigan 49855

Dear Dr. Parejko:

In response to your request of July 30, I am enclosing the literature which was also sent to your student, Mark Fairclough.

I hope you find the material helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

WBP affidant
LL
BB
V
P
Q
II
J

M
metcalf liquidation papers
JJ
E
HH
Z
X

DSW 175315

STLCOPCB4049836

August 4, 1975

Dr. C. E. Westerman
Environmental Science & Engineering
P. O. Box 13454
University Station
Gainesville, Florida 32604

Dear Dr. Westerman:

Enclosed is the literature I had offered to send you. I hope you find it useful. If I can be of further service, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

T
J
E
FF
GG

KK
Aroclor 1016 Properties sheet
LL
Aroclor 1254 Spec. Properties

DSW 175316

112

STLCOPCB4049837

W. B. Papageorge B2SK

August 4, 1975 H. S. Bergen

PCB PAPERS
DR. G. FRED LEE REVIEWS

R. E. Keller
W. R. Richard

Attached are two reviews by Dr. G. Fred Lee of papers submitted for publication. A copy of one of the papers is also included.

Do you agree with Fred Lee's comments relating to the Fenical-Sleeper paper?

Note Dr. Lee provided this information for our use only. They are to be considered confidential and may not be cited.

W. B. Papageorge

/pd

DSW 175317

112

STLCOPCB4049838

August 1, 1975

Mr. Donald J. Schneider
Chief Technical Director
Fort Howard Paper Company
1919 South Broadway
P. O. Box 130
Green Bay, Wisconsin 54305

Dear Mr. Schneider:

Attached is information relating to the PCB hearings to be held by the Wisconsin Department of Natural Resources to receive public comment on proposed regulations relating to the discharge of PCBs into the waters of Wisconsin.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: H. S. Bergen
D. Wood

DSW 175318

111

STLCOPCB4049839

August 1, 1975

Dr. E. L. Simons
General Electric Company
One River Road
Schenectady, New York 12345

Dear Dr. Simons:

Attached is information relating to the PCB hearings to be held by the Wisconsin Department of Natural Resources to receive public comment on proposed regulations relating to the discharge of PCBs into the waters of Wisconsin.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: H. S. Bergen
D. Wood

DSW 175319

August 1, 1975

PCB Ad Hoc Committee:

Attached is information relating to the PCB hearings to be held by the Wisconsin Department of Natural Resources to receive public comment on proposed regulations relating to the discharge of PCBs into the waters of Wisconsin.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen
David Wood

DSW 175320

109

STLCOPCB4049841

W. B. Papageorge B2SK

August 1, 1975

F. J. Fitzgerald
W. W. Withers

PCB HEARINGS - WISCONSIN

H. S. Bergen
R. G. Potter

I finally received the invitation to participate in the PCB hearings scheduled by the Wisconsin Department of Natural Resources to review and receive public comment relating to the discharge of PCBs into the waters of the state. You will note that this regulation does not call for banning or restricting the use of PCBs.

I note that I am listed as a speaker and I propose that the information I present be based on the attached table which we have shared widely with others.

Any comments?

W. B. Papageorge

/pd

DSW 175321

August 1, 1975

Dr. Barry Commoner
CBNS
Box 1126
Washington University
St. Louis, Missouri 63130

Attention: Ms. Joyce Henry

Dear Mr. Commoner:

Enclosed is the Sample Request Form which was requested by Ms. Joyce Henry. If you will complete this form and return to me, I will have the appropriate sample forwarded to you. Aroclors 1242, 1254, 1221 and 1016 are the available materials.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175322

August 1, 1975

Dr. Rudolph J. Jaeger
Harvard University
School of Public Health
655 Huntington Avenue
Boston, Massachusetts 02115

Dear Dr. Jaeger:

Monsanto's Dr. George Levinskas informed me of your request for a sample of Aroclor 1254. Enclosed is a Sample Request Form. If you will complete this and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty and Process Chemicals

WBP:pd

cc: Dr. G. J. Levinskas

DSW 175323

106

August 1, 1975

Dr. Raymond D. Harbison
Assistant Professor of
Pharmacology & Biochemistry
Vanderbilt University
Nashville, Tennessee 37232

Dear Dr. Harbison:

Monsanto's Dr. George Levinskas informed me of your request for a sample of Aroclor 1254. Enclosed is a Sample Request Form. If you will complete this and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175324

105

August 1, 1975

Mr. Robert Mintz
Dresser Manufacturing Div.
Bradford, Pennsylvania 16701

Dear Mr. Mintz:

Monsanto's David Mellon informed me of your request for a sample of Aroclor. Enclosed is a Sample Request Form. If you will complete this and return to me, I will have the appropriate sample forwarded to you. The materials available are Aroclor 1242, Aroclor 1254, Aroclor 1221 and Aroclor 1016.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: David Mellon/Akron

DSW 175325

104

STLCOPCB4049846

DSW 175326

July 31, 1975

Ms. Ireta Irvine
Purchasing Department
University of Utah
Salt Lake City, Utah 84112

Dear Ms. Irvine:

In response to your letter of July 28, 1975, regarding your order No. 50 47624 for Aroclors 1262 and 1268, we responded on June 19, 1975, to Mr. Arthur Frank. A copy of that letter is attached.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Attachment

DSW 175327

103

STLCOPCB4049848

W. B. Papageorge B2SK

July 30, 1975

D. R. Dill
F. R. Johannsen
V. L. Rhodes

MONSIZE - ACUTE TOXICITY

D. W. Stegen

Fred Johannsen gave me the following toxicity data:

Oral LD_{50}, Rat	> 15800 mg/kg - Essentially non-toxic
Dermal LD_{50}, Rabbit	> 7940 mg/kg - Essentially non-toxic
Eye Irritation, Rabbit	Average maximum score 12.6 on scale of 110.0 - Slight irritant
Skin Irritation, Rabbit	Primary irritation index 0.0 on scale of 8.0 - non-irritating

You may share this information with your customer. As soon as I receive similar information on Mersize RM Dry, I will forward it to you.

W. B. Papageorge

/pd

DSW 175328

1 of 2

STLCOPCB4049849

July 31, 1975

Mr. R. Ehnley
B. F. Goodrich Chemical Co.
P. O. Box 15
Henry, Illinois 61537

Dear Mr. Ehnley:

Mr. F. G. Lawicki informed me of your request for information relating to the protective clothing recommended for employees working with Para-Nitroaniline (PNA).

At our production unit we emphasize that the best protection is a high degree of personal cleanliness. Our employees are issued daily a change of underwear, socks and long-sleeved coveralls. Shoes are provided and the employee is cautioned to keep them clean and not to wear them outside the plant. While working, he is instructed to wear rubber gloves and following his day's activities he is informed that he should take a complete shower, including shampoo. If during the working shift an employee is exposed to unusual situations, such as cleaning out a blocked duct, he is provided with a change of clothing and instructed to shower thoroughly as soon as the job is completed.

I hope this information is useful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: F. G. Lawicki/Akron

DSW 175329

101

W. B. Papageorge B2SK

July 31, 1975

R. H. Munch
C. Paton
D. Wood

TOXICITY STATEMENTS
MCS 1207, 1238 and 1588

J. L. Wikoff

Attached are the toxicity statements which you requested for the reference products.

These statements must always be used in their entirety to avoid misunderstandings which could occur when sentences are taken out of context. Any changes in wording should be cleared with the Corporate Medical Department.

W. B. Papageorge

/pd

DSW 175330

99

W. B. Papageorge B2SK

July 31, 1975

R. E. Hatton
J. F. Herber

COOLANOL 25
TOXICITY STATEMENT

J. J. Roder - G4NN

Attached is a toxicity statement for Coolanol 25 which you may forward to Mr. David Lum, McDonnell-Douglas.

This statement may be used to comply with any request for this information. When used, it must be used in its entirety to avoid misunderstandings which could occur when sentences are taken out of context.

W. B. Papageorge

/pd

DSW 175331

98

STLCOPCB4049852

July 25, 1975

Mrs. Ruth Lee
463 Jackson
Mondovi, Wisconsin 54755

Dear Mrs. Lee:

Your letter dated July 14 has been forwarded to me for response since I have been intimately associated with Monsanto's polychlorinated biphenyl (PCB) products.

When questions about the effect of PCB's on the environment first surfaced, Monsanto Company reviewed its product line and the applications for these products. As more data were developed concerning the effect of PCB's, Monsanto took steps to reduce the entry of PCB into the environment. The company stopped the sale of PCB's for use in various applications, except where no acceptable alternatives were available. Today, PCB's manufactured by Monsanto Company are sold only to the electrical industry for use in closed systems as a dielectric fluid in transformers and capacitors -- applications for which there exist no acceptable substitutes.

Thus, the situation today is drastically different from conditions which existed only three years ago. Today the 40 million pounds per year of PCB, produced by Monsanto, is carefully used in the Unites States by less than 50 Monsanto customers in the manufacture of sealed electrical equipment. Prior to 1971, Monsanto sold approximately 80 million pounds per year which were used by thousands of customers.

Our manufacturing and sales reduction program was a unilateral action taken by Monsanto and was based on our evaluation of developing environmental data.

DSW 175332

97

I regret that because of a company policy which prohibits the divulgence of specific customer information, I cannot respond to your request for a list of purchasers in Wisconsin and Minnesota. I can, however, inform you that there is only one purchaser of Monsanto's PCB's in Wisconsin and Minnesota, who uses a very small amount in hermetically sealed electrical equipment which I understand is exported. This purchaser fully understands the need for careful control of PCB's and takes the necessary steps to prevent pollution and to properly dispose of scrap material.

I hope this information is helpful to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty and Process Chemicals

WBP:smt

DSW 175333

July 3, 1975

Mr. Robert A. Emmett
Chief, Legal Branch
Water Enforcement Division
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Emmett:

In response to your letter dated June 5, 1975, I am attaching additional information to supplement the material I had previously forwarded to you on June 6. Attached you will find, in response to Question 1 and Question 4 of your letter, the production information for the first quarter of 1975 and the predominant utilization of each Aroclor.

I regret that because of a company policy which prohibits the divulgence of specific customer information, I cannot respond to your request in Question 2.

With regard to Question 3, we do not sell PCB products to wholesale or retail outlets.

I hope this information is udeful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: Mr. Henry Balikov/Chicago 60604
Attorney- Enforcement
Region V Enforcement Div.
U. S. EPA
230 South Dearborn

DSW 175334

91

July 31, 1975

Mr. Russ W. Toombs
Bacteriologist
State of New York
Department of Health
New Scotland Avenue
Albany, New York 12201

Dear Mr. Toombs:

In response to your letter of July 16, I am enclosing a Sample Request Form. If you will complete this form and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175335

95

STLCOPCB4049856

July 31, 1975

Mr. Hugh J. Johnson
Senior Research Toxicologist
Pharmacology Department
Travenol Laboratories, Inc.
Morton Grove, Illinois 60053

Dear Mr. Johnson:

In response to your letter of July 24, I am enclosing a Sample Request Form. If you will complete this form and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175336

94

STLCOPCB4049857

July 31, 1975

Dr. Fred F. Kadlubar
McArdle Laboratory for Cancer
Research
University of Wisconsin
Madison, Wisconsin 53706

Dear Dr. Kadlubar:

In response to your letter of July 24, I am enclosing a Sample Request Form. If you will complete this form and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175337

02

STLCOPCB4049858

July 31, 1975

Mr. Donald J. Schneider
Chief Technical Director
Fort Howard Paper Company
1919 South Broadway
P. O. Box 130
Green Bay, Wisconsin 54305

Dear Mr. Schneider:

Enclosed is the paper which I promised you during our recent telephone conversation.

I hope you find it informative. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

II

DSW 175338

STLCOPCB4049859

July 30, 1975

Mr. Jack Miller
Pollution Abatement Services, Inc.
P. O. Box 4065
Oswega, New York 13126

Dear Mr. Miller:

In response to your questions relating to the incineration of polychlorinated biphenyls (PCBs), I am enclosing information relating to the liquid PCB waste incinerator located at Monsanto's W. G. Krummrich Plant, Sauget, Illinois. Additional information which may be helpful is as follows:

a) Capacity - Incinerators of this type are normally rated for a given heat release. The nominal capacity of the Krummrich Plant incinerator is 1,250 lbs./hr. of Aroclor 1242. This corresponds to a heat release of 13M BTU/hr.

b) Feed Types - This incinerator was designed for a full range of chlorinated and non-chlorinated products. Still bottoms, solvents of various sorts, material containing lime -- virtually any flowable material -- can be fed to this incinerator.

Because some of the feed material was to contain lime (up to 2%), the refractory had to be carefully chosen. The original refractory proved unsatisfactory. A high alumina (high cost) brick is now being considered for replacement following an extended test period. PCBs caused leaching of silica from original brick and thus caused premature failure.

c) For HCl Gas Disposal - A scrubber system was installed. A venturi scrubber is used to assure wetting of particulates. A packed column following the venturi is used to scrub out the HCl.

d) Oxidation Temperature - This must be coupled with residence time in the oxidizer. Both are needed for complete PCB destruction. Higher chlorination levels require higher temperatures for destruction.

DSW 175339

91

The Krummrich incinerator is designed for 2880°F (for Aroclor 1260). Normal operating temperatures are in the range of 2200 - 2500°F. Residence time is about 2.5 seconds. One set of conditions we have used are as follows: Operating temperature - 2700°F, residence time - 1.5 seconds. We also recommend that about 2 - 3% excess oxygen be present.

e) Supplier of Equipment - John Zink Company, P. O. Box 7388, Tulsa, Oklahoma, 74105. Each incinerator is custom designed.

I hope you find this information useful. If I can help further, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
Attachments

DSW 175340

W. B. Papageorge B2SK

July 30, 1975

R. E. Keller
C. Paton
W. R. Richard
D. Wood

May I have your comments regarding the attached?

W. B. Papageorge

/pd

DSW 175341

90

STLCOPCB4049862

July 30, 1975

Mr. H. Bennett, F.A.I.C.
Director, B. R. Laboratory
Miami Beach, Florida 33140

Dear Mr. Bennett:

It was recently brought to my attention that on page 92 of Volume XVII, The Chemical Formulary, 1973, reference is made to Aroclor 1221.

Aroclor 1221 was formerly manufactured by Monsanto Company for ganeral use but beaause of environmental considerations, we have restricted the sale of this material only to manufacturers of electrical capacitors in which Aroclor 1221 is used as a fire resistant dielectric fluid.

I recommend that future editions of The Chemical Formulary do not show this application and if possible an eratta sheet be included to correct the misinformation in current copies.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175342

89

STLCOPCB4049863

July 30, 1975

Dr. Renate D. Kimbrough
Toxicology Branch
Clinical Chemistry Division
Bureau of Laboratories
Center for Disease Control
Dept. of Health, Education
and Welfare
Atlanta, Georgia 30333

Dear Dr. Kimbrough:

In response to your request for information relating to the composition of the Aroclor 1260 polychlorinated biphenyl mixture, I regret to inform you that the decision to discontinue the manufacture of this mixture was made prior to the time we were determining the homolog composition of our Aroclors. Consequently we did not determine the composition of Aroclor 1260. I have enclosed a copy of a paper by Ronald G. Webb and Ann C. McCall which appeared in the July, 1973 issue of the Journal of Chromatographic Science. In this report you will find on page 370 the information you are seeking.

In 1971 we conducted studies to determine the chlorodibenzofuran content of our Aroclor products using the method described by Vos, et al., Fd. Cosmet. Toxicol. 8, 625 (1970). We did not detect any chlorodibenzofurans in any of our products, with a lower detection limit of 0.5 ppm for each isomer.

You may, of course, use this information if you wish. I hope you find it useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175343

98

STLCOPCB4049864

July 30, 1975

Mr. D. F. Konopacky
Assistant Buyer
Consolidated Papers, Inc.
Wisconsin Rapids, Wisconsin 54494

Dear Mr. Konopacky:

Mersize 77 TFL is regulated under Title 21 CFR, Subpart F, Sections 121.2529, 121.2520, 121.2526, 121.2571 and 121.2592. To our knowledge no extraction limitations on the final product are necessary for FDA compliance.

I hope the above information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: D. W. Stegen

DSW 175344

97

STLCOPCB4049865

July 30, 1975

Mr. William F. Bates, Manager
Quality Assurance
Morton Chemical Company
3142 West Mill Rd. Ct.
Milwaukee, Wisconsin 53209

Dear Mr. Bates:

Enclosed is a completed copy of your Vendor Quality Survey.

I hope you find the information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc: Bruce Heckenberg
Roger Sellew
J. B. Willmore/Del. River

DSW 175345

86

STLCOPCB4049866

July 29, 1975

Dr. James Epler
Union Carbide
Biology Division
P. O. Box Y
Building 9224
Oak Ridge, Tennessee 37830

Dear Dr. Epler:

Mr. Bill Winton informed me of your need for a sample of Aroclor 1254.

I am enclosing a Sample Request Form. If you will complete this and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175346

85

STLCOPCB4049867

July 29, 1975

Mr. Clyde R. Wilson
Graduate Assistant
Dept. of Biological Sciences
Northern Illinois University
DeKalb, Illinois 60115

Dear Mr. Wilson:

In response to your request dated July 18 for samples of Aroclors, because of environmental considerations Monsanto has discontinued the manufacture and sales of Aroclors 1248 and 1260. Therefore we no longer have samples of these materials available.

I am enclosing a Sample Request Form. If you will have this form completed and return to me, I will have samples of Aroclor 1242 and Aroclor 1254 forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175347

84

STLCOPCB4049868

Pink

July 29, 1975

Mr. W. T. Sullivan
Environmental Control
Caterpillar Tractor Company
100 N. E. Adams
Peoria, Illinois 61629

Dear Mr. Sullivan:

Mr. Des Hosmer informed me of your request for information relating to the proper disposal of polychlorinated biphenyls (PCBs).

I am enclosing two bulletins which contain sections with disposal suggestions.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc:D. B. Hosmer

BB
LL

DSW 175348

83

STLCOPCB4049869

July 29, 1975

Mr. Peter Thomas
Department of Bacteriology
University of Wisconsin
Fourth Floor
1550 Linden Drive
Madison, Wisconsin 53706

Dear Mr. Thomas:

Mr. David Wood informed me of your request for information relating to the physical and chemical properties of Monsanto's Aroclor 1248.

As Mr. Wood indicated to you, Aroclor 1248 has not been manufactured for several years but I do have a copy of an old bulletin in which you will find the information you are seeking.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: David Wood

T

DSW 175349

82

STLCOPCB4049870

July 29, 1975

Ms. Abigail Brett
American Chemical Society
1155 16th Street, N. W.
Washington, D. C. 20036

Dear Ms. Brett:

Enclosed is the information relating to polychlorinated biphenyls which I had promised to mail you.

I hope you find it helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Production Table
X
J
Fed Reg (Dec., 1974) on FDA levels

DSW 175350

81

STLCOPCB4049871

W. B. Papageorge B2SK

July 29, 1975

TOXICITY REQUIREMENTS
PESTICIDE REGISTRATION

R. H. Mills
J. K. Orrell - 1180
R. Perry
J. F. Winkler

G. J. Levinskas

Attached is a copy of a letter from Economic Laboratories, Inc., requesting information on the toxicity of Caustic Potash, 45% and Benzyl Chloride. Will your department send me the data requested.

By copy of this memo I am requesting Bob Mills for information relating to biodegradation of Benzyl Chloride, if any exists.

W. B. Papageorge

/pd

DSW 175351

80

STLCOPCB4049872

July 29, 1975

Mr. Regis A. Mika
Facility Chemical Coordinator
IBM Corporation - Dept. 722-001-3
6300 Diagonal Highway
Boulder, Colorado 80302

Dear Mr. Mika:

In response to your letter dated July 15 in which you requested a Material Safety Data Sheet for Aroclor, which you are considering for possible use, I wish to inform you that Monsanto's Aroclor products are not available to the general market.

Because of environmental considerations, Aroclors are sold by Monsanto under special arrangements only to manufacturers of capacitors and transformers in which Aroclors are used as fire resistant dielectric fluids. If your company plans to manufacture capacitors or transformers, we would be pleased to discuss the conditions under which Aroclors can be available.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175352

79

STLCOPCB4049873

W. B. Papageorge B2SK

July 29, 1975

PCBs

Memo HSB to FJF, 7/17/75

H. S. Bergen

D. L. Eby
R. G. Potter
G. Roush

Attached is a draft relating to the presence of PCBs in the environment, which was prepared to comply with Action 5(d) as shown in the attachment to the reference memo.

This draft will be a portion of a total Monsanto statement which will be completed before September 1.

Comments are requested.

W. B. Papageorge

/pd

DSW 175353

78

STLCOPCB4049874

W. B. Papageorge B2SK

July 25, 1975

PCBs - EPA

H. S. Bergen

K. W. Easley
T. L. Gossage
D. B. Hosmer
J. P. Mieure
P. S. Park
R. G. Potter
W. R. Richard
J. R. Savage
W. W. Withers
D. Wood
P. L. Wright

Thomas Kopp, Office of Toxic Substances, EPA, called to inform me of the following:

(1) Francis T. Mayo, Regional Administrator, EPA, Region V (Chicago), reacting to pressure from the Great Lakes area, has written to Russell Train claiming PCB contamination is widespread, that control of PCBs is lacking, the problem is not confined to the Great Lakes and that EPA in Washington must take some action.

(2) Russell Train is planning a press conference to be held approximately the second week in August. He is expected to support the continued use of PCBs in capacitors and transformers but will claim the PCBs are currently not adequately controlled and the Agency desperately needs the Toxic Substances Control Act to control imports and improper use of PCBs.

(3) In addition to the Great Lakes, EPA claims it has evidence that PCB levels are rising in the Hudson River, Chesapeake Bay (study by a Westinghouse subsidiary) and Orange County, California.

(4) A national PCB symposium is being planned and will probably be scheduled for October. The symposium will cover the latest technical developments on PCBs as well as replacement materials.

(5) Public hearings will be held in Madison, Wisconsin, on August 28 and 29. These hearings are scheduled to give interested parties an opportunity to comment on the proposal being considered by the Wisconsin legislature to ban or severely restrict the use of PCBs. Federal EPA will participate. Monsanto will be invited.

W. B. Papageorge

/pd

DSW 175354

99

July 25, 1975

PCB Ad Hoc Committee:

Thomas Kopp, Office of Toxic Substances, EPA, called to inform me of the following:

1. Francis T. Mayo, Regional Administrator, EPA, Region V (Chicago), reacting to pressure from the Great Lakes area, has written to Russell Train claiming PCB contamination is widespread, that control of PCBs is lacking, the problem is not confined to the Great Lakes and that EPA in Washington must take some action.

2. Russell Train is planning a press conference to be held approximately the second week in August. He is expected to support the continued use of PCBs in capacitors and transformers but will claim the PCBs are currently not adequately controlled and the Agency desperately needs the Toxic Substances Control Act to control imports and improper use of PCBs.

3. In addition to the Great Lakes, EPA claims it has evidence that PCB levels are rising in the Hudson River, Chesapeake Bay (study by a Westinghouse subsidiary) and Orange County, California.

4. A national PCB symposium is being planned and will probably be scheduled for October. The symposium will cover the latest technical developments on PCBs as well as replacement materials.

5. Public hearings will be held in Madison, Wisconsin, on August 28 and 29. These hearings are scheduled to give interested parties an opportunity to comment on the proposal being considered by the Wisconsin legislature to ban or severely restrict the use of PCBs. Federal EPA will participate. Monsanto will be invited.

DSW 175355

76

STLCOPCB4049876

I recommend that the EIA PCB Ad Hoc Committee participate in the Wisconsin hearings, particularly to emphasize the need for PCBs in capacitors and the steps taken by the industry to control loss of PCBs to the environment. Arrangements can be made by contacting:

Mr. Stanton J. Kleinert
Chief, Surveillance Section
Bureau of Standards & Surveys
State of Wisconsin
Department of Natural Resources
Box 450, Pyare Square
4610 University Avenue
Madison, Wisconsin 53701

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen
D. Wood

bcc: Dr. E. L. Simons/GE

DSW 175356

W. B. Papageorge B2SK

July 24, 1975

Mike Marshall
F. G. Sutton

SANTOBRITE
FORSHAW CHEMICALS

R. G. Sido

Attached is EPA Form 8570-4 which Forshaw Chemicals has requested we complete and forward to EPA.

Will you please handle.

W. B. Papageorge

/pd

DSW 175357

5

STLCOPCB4049878

W. B. Papageorge B2SK

July 24, 1975 A. A. Johnson

G. F. Fague

Attached is the information which I recommend be forwarded to Chevrolet, Tonawanda.

W. B. Papageorge

/pd

DSW 175358

STLCOPCB4049879

July 24, 1975

Dr. Donald J. Schneider
Chief Technical Director
Fort Howard Paper Company
1919 South Broadway
P. O. Box 130
Green Bay, Wisconsin 54305

Dear Dr. Schneider:

In your recent letter to David Wood you requested information relating to procedures we follow in containing spills in our PCB manufacturing facilities.

We have no formal written procedure but rely on the proper design of our facilities and emphasize prompt maintenance and a high level of good housekeeping. At all times we insist that our employees follow the proper industrial hygiene practices of wearing protective clothing, removal of contaminated clothing and thorough personal cleanliness.

I have attached a copy of the American National Standard Institute's Guidelines for Polychlorinated Biphenyls, a copy of Monsanto's recent issuedof the "Transformer Askarel Inspection and Maintenance Guide" and a copy of a presentation we made to an advisory committee to the EPA. I believe you will find in these articles the basic principles which must be followed to insure proper containment.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: David Wood

BB LL
MM

DSW 175359

93

STLCOPCB4049880

July 24, 1975

Dr. Charles R. Malone
National Research Council
Environmental Studies Board
2101 Constitution Avenue
Washington, D. C. 20418

Dear Dr. Malone:

I appreciate receiving a complimentary copy of Decision Making for Regulating Chemicals in the Environment and look forward to its arrival.

I believe it would be appropriate if comments relating to my participation ~~are~~ mailed to:

Mr. Harold H. Bible
Group Vice President
Monsanto Industrial Chemicals Co.
800 North Lindbergh Boulevard
St. Louis, Missouri 63166

I personally found my participation beneficial and if I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175360

82

STLCOPCB4049881

July 24, 1975

Dr. David B. Miller
National Bureau of Standards
High Voltage Measurement Section
Building 220, Room B 348
Washington, D. C. 20234

Dear Dr. Miller:

Enclosed are the articles relating to degradation of polychlorinated biphenyls which I had offered to send you.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: D. Wood
W. R. Richard

W
HH
JJ
metcalf degrad. paper

DSW 175361

70

STLCOPCB4049882

July 22, 1975

Mr. Mark E. Fairclough
Dept. of Biology
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Fairclough:

In response to your request of July 14, I am enclosing various literature on polychlorinated biphenyls.

I hope you find this material useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

WBP affidant
LL
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M
metcalf degradation paper
JJ
E
HH
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X

DSW 175362

69

STLCOPCB4049883

July 22, 1975

Mr. Horace D. Brown
Merk Sharp & Dome
Reaearch Laboratories
Building 50
Merk & Company, Inc.
Rahway, New Jersey 07065

Dear Mr. Brown:

Enclosed is the Sample Request Form which I offered to send you during our telephone conversation. If you will have this form completed and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If we can be of further help, please let us know.

Sincerely,

Peggy Dean
Sec'y to W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175363

68

STLCOPCB4049884

July 21, 1975

Mr. Wes Perkins
Weatherford/AAI
P. O. Box 55343
Houston, Texas 77055

Dear Mr. Perkins:

Monsanto's Jim Armentor informed me of your interest in the biodegradability of our Pydraul industrial hydraulic fluids.

The base stock used in these fluids is biodegradable. Our laboratory biodegradation studies, simulating the action of a secondary sewage treatment facility, show that even at concentrations as high as 3.3 ppm, 28% of the fluid base degrades within 24 hours. Furthermore, all major components of the fluids appear to degrade at approximately the same rate, so there is no accumulation of a persistent residue.

Studies of the ultimate biodegradability of the fluids show that for the time interval studied, carbon dioxide is evolved at about one-fourth the extent observed for dextrose, a highly degradable standard.

I hope this information is helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: J. J. Armentor/Houston
bcc: C. Paton

DSW 175364

67

STLCOPCB4049885

W. B. Papageorge St. Louis B2SK

July 21, 1975 Dave Press

FDA STATUS OF MERSIZES

Memo CB to DP, 7/17/75

Cliff Boutin - Santa Clara

Mersizes are covered under 21 CFR, Subpart F, Sections 121.2529, 121.2520, 121.2526, 121.2571 and 121.2592.

W. B. Papageorge

/pd

DSW 175365

66

STLCOPCB4049886

July 21, 1975

Assistant Commissioner for Professional
and Consumer Programs (HFG-1)
Food and Drug Administration
Room 15B-41
5600 Fishers Lane
Rockville, Maryland 20852

Dear Sir:

I would appreciate receiving a copy of FY 1973 Pesticide/PCB in Foods Program - Evaluation Report. If there is a charge for this please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175366

65

STLCOPCB4049887

W. B. Papageorge St. Louis B2SK

July 21, 1975

H. C. Carder
F. R. Johannsen
Randolph Perry
J. F. Winkler

SANTOSITE - AQUATIC TOXICITY
BETZ LABORATORIES

Lou Gallipeau - 1940

The 96-hour static fish toxicity studies with Santosite have been completed. The results are as follows:

96-hour LC_{50}(ppm)	
Rainbow trout	Bluegill
251.2	316.2

Fred Johannsen informs me that based on these results, Santosite can be considered to elicit a relatively low order of toxicity toward rainbow trout and bluegill.

Will you arrange to have this information forwarded to Mr. Tom Baker, Betz Laboratories.

W. B. Papageorge

/pd

DSW 175367

64

STLCOPCB4049888

W. B. Papageorge B2SK

July 21, 1975

G. F. Fague
F. R. Johannsen
C. Paton

PYDRAUL 230C - TOXICITY STATEMENT

A. A. Johnson

Attached is a copy of a toxicity statement prepared in response to your June 27 memo relating to a Chevrolet request. You may wish to share this statement with any customers on request. When used, the statement must be retained in its entirety to avoid misunderstandings when statements are taken out of context.

Fred Johannsen informs me that he will prepare a statement for Santosafe W/G 15 as soon as toxicity studies now under way have been completed.

W. B. Papageorge

/pd

DSW 175368

63

STLCOPCB4049889

W. B. Papageorge B2SK

July 21, 1975

H. S. Bergen
T. L. Gossage
C. Paton

PCBs - BEER BARREL CONTAINERS

D. Wood

I have given some thought to General Electric's proposal that PCBs be shipped to them in a container similar to a beer barrel which would later accompany a transformer to its destination. The PCBs would then be transferred under pressure into the transformer which has previously been filled with the proper amount of trichlorobenzene.

I can appreciate the benefits to G.E. in minimizing the loss of PCBs from transformers involved in shipping accidents. At the same time I can also see the following disadvantages:

(1) Transfer of liquids under pressure always induces the risk of uncontrolled loss through faulty piping connections since there is no way to quickly release the pressure in the barrel.

(2) Washing of the barrels will result in an increase in the PCBs in the WGK plant's effluent streams.

(3) The possibility does exist that on occasion the barrels will be improperly cleaned, resulting in product contamination.

(4) The probability may not be great, but the possibility that the barrel may find its way into beverage use concerns me.

(5) My personal experience with returnable nickel drums in Benzyl Chloride service leads me to predict that the use of beer barrels for PCBs will result in a logistics and accounting nightmare.

I strongly recommend that we do not become involved with beer barrel containers but that we emphasize with G.E. athat the problem appears to us to be associated with the attitudes of the drivers and the types of instructions they have been given. I personally believe that a properly designed transformer, adequately secured in a truck and driven by a responsible, careful driver, should result in a minimum of accidnts.

W. B. Papageorge

/pd

DSW 175369

62

July 21, 1975

Mrs. Ione Timm
Box 411
Blair, Wisconsin 54616

Dear Mrs. Timm:

Your letter dated July 11 was forwarded to me for response because I have been intimately associated with Monsanto's polychlorinated biphenyl (PCB) products.

I appreciate and understand your concern relating to the contamination of Lake Pepin. From my knowledge of the uses of PCBs I find it very difficult to understand how the lake can continue to be contaminated.

When questions about the effect of PCBs on the environment first surfaced, Monsanto Company reviewed its product line and the applications for these products. As more data was developed concerning the effect of PCBs, Monsanto took steps to reduce the entry of PCB into the environment. The Company stopped the sale of PCBs for use in various applications, except where no acceptable alternatives were available. Today, PCBs manufactured by Monsanto Company are sold only to the electrical industry for use in closed systems as a dielectric fluid in transformers and capacitors -- applications for which there exist no acceptable substitutes.

Thus the situation today is drastically different from conditions which existed only three years ago. Today the 40 million pounds per year of PCB, produced by Monsanto, is carefully used in the United States by less than 50 Monsanto customers in the manufacture of sealed electrical equipment. Prior to 1971, Monsanto sold approximately 80 million pounds per year which was used by thousands of customers.

Our manufacturing and sales reduction program was a unilateral action taken by Monsanto and was based on our evaluation of developing environmental data.

DSW 175370

61

STLCOPCB4049891

Although research efforts designed to develop alternative materials for use in the electrical industry have been accelerated not only by Monsanto but others, including industry, university and government laboratories, worldwide, to this day no material has been found which offers both the electrical properties and the important fire resistance which are available with PCBs. I can assure you that these efforts will be continued.

I appreciate your understanding of the difficulties involved in the divulgence of commercially sensitive customer information. I regret that I cannot share with you specific customer information but I can assure you that Monsanto does not sell PCBs to any industry located in the Lake Pepin area or the associated water systems.

Since Monsanto began its withdrawal of PCBs in 1970 from open type systems which lead to easy entry into the environment, the source of the PCBs in Lake Pepin remains a mystery to me. I personally cannot speak from facts but I cannot help but speculate regarding importation from foreign sources or the continued presence of PCBs in applications which we no longer consider proper and their disposal into river systems, an action which we consider irresponsible.

I have enclosed a copy of a report issued by the Federal Interdepartmental Task Force on PCBs. I believe this report is an excellent summary of the PCB environmental problem.

I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175371

D R A F T

July 21, 1975

Mrs. Ruth Lee
463 Jackson
Mondovi, Wisconsin 54755

Dear Mrs. Lee:

Your letter dated July 14 has been forwarded to me for response since I have been intimately associated with Monsanto's polychlorinated biphenyl (PCB) products.

When questions about the effect of PCBs on the environment first surfaced, Monsanto Company reviewed its product line and the applications for these products. As more data was developed concerning the effect of PCBs, Monsanto took steps to reduce the entry of PCB into the environment. The Company stopped the sale of PCBs for use in various applications, except where no acceptable alternatives were available. Today, PCBs manufactured by Monsanto Company are sold only to the electrical industry for use in closed systems as a dielectric fluid in transformers and capacitors -- applications for which there exist no acceptable substitutes.

Thus the situation today is drastically different from conditions which existed only three years ago. Today the 40 million pounds per year of PCB, produced by Monsanto, is carefully used in the United States by less than 50 Monsanto customers in the manufacture of sealed electrical equipment.

DSW 175372

61

STLCOPCB4049893

Prior to 1971, Monsanto sold approximately 80 million pounds per year which was used by thousands of customers.

Our manufacturing and sales reduction program was a unilateral action taken by Monsanto and was based on our evaluation of developing environmental data.

I regret that because of a company policy which prohibits the divulgence of specific customer information, I cannot respond to your request for a list of purchasers in Wisconsin and Minnesota. I can, however, inform you that there is only one purchaser of Monsanto's PCBs in Wisconsin and Minnesota, who ~~is~~ uses a very small amount (about a truckload a year) in hermetically sealed electrical equipment which I understand is exported. This purchaser fully understands the need for careful control of PCBs and takes the necessary steps to prevent pollution and properly dispose of scrap material.

I hope this information is helpful to you.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

DSW 175373

W. B. Papageorge St. Louis B2SK

July 21, 1975

ADIPIC ACID - RESIN GRADE
DOW CHEMICAL

H. C. Carder
V. E. Castleberry - 1560
R. K. Hartmann - 1560
B. D. Heckenberg
Randolph Perry

J. K. Orrell - 1180

The plant has indicated that they can meet Dow Chemical's Adipic Acid specification. Attached is a signed copy which you may forward to Mr. Shafer.

W. B. Papageorge

/pd

DSW 175374

60

STLCOPCB4049895

July 18, 1975

Mr. Richard J. Himics
RCA Laboratories
Route 1
Princeton, New Jersey 08540

Dear Mr. Himics:

Confirming our recent telephone conversation, it is my considered opinion that if good housekeeping and modern industrial hygiene practices are followed, the presence of polychlorinated biphenyls (PCBs) in the fluids present in capacitors should not pose an employee exposure problem.

In the event an employee experiences skin exposure, a normal soap and water wash should suffice. I would not expect anyone to experience skin exposure frequently. Repeated exposures will result in a reddening of the skin, indicating a removal of the natural oils, and further exposure would probably result in chloracne, a skin condition commonly associated with undue exposure to chlorinated hydrocarbons.

Clothing contaminated with the liquid should be laundered before reuse. Any solid material such as rags and oil absorbents should be carefully collected and buried in an authorized landfill.

Further information relating to the proper handling of these materials may be found in the bulletins I have enclosed. I hope you find this information helpful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175375

BB
LL

5-9

STLCOPCB4049896

July 18, 1975

Mr. Adolph Bebernak
Director of Research
Haag Laboratories, Inc.
14000 South Seeley Ave.
Blue Island, Illinois 60406

Dear Mr. Rebernak:

Attached is a copy of the letter I forwarded to Mr. Elmer D. Geathers, EPA.

I hope this fulfills EPA's requirements. If I can help further please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: John K. Orrell/Chicago

DSW 175376

58
66

STLCOPCB4049897

July 18, 1975

Mr. Elmer D. Geathers
Product Manager
Disinfectants Branch
Registration Division (WH-567)
United States Environmental
Protection Agency
Washington, D. C. 20460

Dear Mr. Geathers:

We have been informed that Haag Laboratories, Inc., Blue Island, Illinois, has applied for the registration of a new germicidal liquid detergent PTF which contains Monsanto's Santosite as one of several ingredients.

Monsanto's Santosite consists of:

Sodium Sulfite	97% minimum
Sodium Sulfate	3% maximum

The Registration Division, EPA, may use this composition information to support the Haag Laboratories' product registration.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175377

57
65

STLCOPCB4049898

W. B. Papageorge B2SK

July 18, 1975

MONFLEX - DERMATITIS

R. L. Bilton - E3SC
E. F. Cartwright - Bircham Bend
D. E. Erickson - Bircham Bend
W. A. Fronek - Houston
T. B. Wilkinson - Houston

Dr. George Roush - A2SA

Attached is a copy of a memo from T. B. Wilkinson describing evidence of dermatitis among employees apparently exposed to our former product, Monflex 4514.

Since this involves a human health problem, will you please comment directly to T. B. Wilkinson or perhaps call Mr. Harold Boyer, National Cellulose Corp.

W. B. Papageorge

/pd

DSW 175378

5 p

STLCOPCB4049899

W. B. Papageorge St. Louis B2SK

July 18, 1975

F. J. Camargo
N. J. Kamper
H. E. Navarrete/Puerto Rico

POLYCHLORINATED POLYPHENYLS

(Call Report #196, 6/10/75
(H. E. Navarrete
D. Wood

The reference report referred to a U. S. patent which claims that polychlorinated polyphenyls such as Monsanto's Aroclors can be used as initiators in photopolymerization.

I reviewed the patent, which was submitted on November 24, 1967, and awarded on December 29, 1970. I note that the Aroclors are included with many other chloro and bromo organic compounds.

As you know, Monsanto does not sell its Aroclors to this type of application. Any attempt to purchase this material from us would, of course, result in a rejection and alternative materials could be easily found.

With our current control on sales, I do not see this patent as posing a problem for Monsanto.

W. B. Papageorge

/pd

DSW 175379

55

STLCOPCB4049900

W. B. Papageorge

B2SK

July 18, 1975

TOXIC POLLUTANT EFFLUENT
STANDARDS (Sec. 307a, PL 92-500)

H. S. Bergen

K. W. Easley
T. L. Gossage
J. P. Mieure
P. S. Park
C. Paton
R. G. Potter
J. R. Savage
W. W. Withers
D. Wood
P. L. Wright

I called Mr. R. K. Ballentine, EPA, Washington, to determine the status of activities relating to PCB effluent atandards. He informs me that very little has transpired during the past three months, with most of the EPA activity apparently centering in their legal department. Mr. Ballentine gave me the following information:

(1) The Environmental Defense Fund has filed for a summary judgment relating to theirlawsuits filed in Chicago and Washington. This action has apparently caused considerable concern with the EPA legal staff.

(2) The "basis and purpose" document, which contains the technical information upon which the standards are to be based, is being completely rewritten. At present a draft is not available.

(3) The EPA, on legal advice, has abandoned the idea of publishing "Advance Notice of Proposed Regulation."

(4) The current thinking within EPA is to publish separate effluent standards for smaller categories of point sources. For example, the PCB standards could be published separately for the producer, capacitor and transformer manufacturer, and the user of the capacitors and transformers.

(5) The proposed regulation for PCB effluent standards is still scheduled for publication in late December or early January.

W. B. Papageorge

/pd

DSW 175380

STLCOPCB4049901

July 18, 1975

PCB Ad Hoc Committee:

I called Mr. R. K. Ballentine, EPA, Washington, to determine the status of activities relating to PCB effluent standards. He informs me that very little has transpired during the past three months, with most of the EPA activity apparently centering in their legal department. Mr. Ballentine gave me the following information:

(1) The Environmental Defense Fund has filed for a summary judgment relating to their lawsuits filed in Chicago and Washington. This action has apparently caused considerable concern with the EPA legal staff.

(2) The "basis and purpose" document, which contains the technical information upon which the standards are to be based, is being completely rewritten. At present a draft is not available.

(3) The EPA, on legal advice, has abandoned the idea of publishing "Advance Notice of Proposed Regulation."

(4) The current thinking within EPA is to publish separate effluent standards for smaller categories of point sources. For example, the PCB standards could be published separately for the producer, capacitor and transformer manufacturer, and the user of the capacitors and transformers.

(5) The proposed regulation for PCB effluent standards is still scheduled for publication in late December or early January.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: H. S. Bergen
D. Wood

DSW 175381

53
64

STLCOPCB4049902

W. B. Papageorge B2SK

July 18, 1975

PCB, PCT - IMPORTS

T. L. Gossage
C. Paton
R. G. Potter
W. W. Withers
D. Wood

H. S. Bergen

The EPA report to OECD showing PCB information for 1974 indicates that 48,000 pounds of a 42% chlorinated biphenyl were imported into the U. S. for use in hydraulic fluid, and 330,000 pounds of a 60% chlorinated terphenyl was imported for use in investment casting waxes. Both of these materials originated in France.

No receipt of decachloro biphenyl from Italy was reported in 1974.

W. B. Papageorge

/pd

DSW 175382

52

STLCOPCB4049903

July 17, 1975

Mr. Robert R. Terry
Purchasing Agent
Westvaco
Bleached Board Division
Covington, Virginia 24426

Dear Mr. Terry:

In response to your letter of July 9 addressed to Monsanto's Atlanta office, I am enclosing a signed copy of your FDA Guaranty form with a modifying attachment, and a Product Specification sheet.

Monsize is covered under 21 CFR, Subpart F, Sections 121.2529, 121.2520, 121.2526, 121.2571, and 121.2592.

I hope the Guaranty as modified is appropriate. If I can be of further service, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: Mr. W.D. Major, Technical Director
Mr. W. J. Riley

bcc: V. L. Rhodes
H. R. Ford/Atlanta

DSW 175383

51

STLCOPCB4049904

W. B. Papageorge St. Louis B2SK

July 17, 1975

SIZING SPECIFICATIONS

W. A. Baker - 1100
D. Dill
B.S.K. Fung - 1810
O. E. Dolin - 1670
J. R. Savage
F. G. Sutton

L. Stalvey - 1100

I have reviewed my records to determine the status of specifications for size products produced at your plant and found the following:

A. Specifications recently (July, 1975) circulated for approval and which apply also to Nitro and/or Seattle plant production:

Mersize NEK 70% (Mersize T-70)
Mersize NEK 77% (Mersize T-77)
Mersize TFL 70% (Mersize KIP HE 70%)
Mersize TFL 77% (Mersize KIP HE 77%, Champion Size 77)
Mersize TFL 80% (Champion Size 80)
Mersize EXCL 70%

B. Specifications dated April 11, 1972:

Mersize CB2 Liquid
Mersize CD2 Dry
Mersize RM Dry
RPC 603 77
Santosize 70%
Santosize 70% DSO
Santosize 80% DSO

C. Specifications Lacking:

Mersize LCS 60%
Mersize LCS 70%
Mersize EXCL 77
Mersize EXCL 100
Santosize 77% DSO
RPC 1600
Santosize 80%

DSW 175384

5(

STLCOPCB4049905

Questions:

1. Is this listing of products complete and accurate?

2. Is RPC 603 77 the same as Nitro's Mersize 603 77%? (Copy of Nitro specification is attached).

3. What are target dates for preparing specifications for products listed under items B and C?

I recommend that specifications for Mersize LCS 60%, Mersize LCS 70% and Mersize EXCL 77 be applicable to production from both. Baxley and Seattle.

W. B. Papageorge

/pd

DSW 175385

57

STLCOPCB4049906

July 17, 1975

Mr. Dudley Thomas
U. S. Steel Corporation
P. O. Box 510
Provo, Utah 84601

Dear Mr. Thomas:

Enclosed is the literature I offered to send you. You will be receiving disposal instructions under separate cover.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: B. Bevaqua/Santa Clara

DSW 175386

49

STLCOPCB4049907

W. B. Papageorge B2SK

Randolph Perry, Jr.

July 16, 1975

PHOSPHORUS PENTASULFIDE -
CYANAMID - INDIA

J. A. Hayes - B3NC

Cyanamid - India's specifications for Phosphorus Pentasulfide, forwarded to us by Mr. K. Asai, call for properties which have never been tested by Monsanto.

I understand that Cyanamid - U.S.A. had made similar proposals which we have never been able to agree to. Yet Cyanamid - U.S.A. continues to purchase our material and we apparently have a good working relationship with them. I understand, for example, that there is an interest in a Monsanto P_2S_5 unit in Brazil to supply Cyanamid's methylparathion plant?

Can we get Cyaaamid- U.S.A. to exert some influence on Cyanamid - India to accept our product using our specifications?

If Cyanamid - India insists that their specifications must be met, we would like to receive copies of analytical methods used to determine methanol yield, purity of methanol reaction product, undissolved residue and sulfur precipitation.

W. B. Papageorge

/pd

DSW 175387

48

STLCOPCB4049908

W. B. Papageorge B2SK

July 16, 1975

PARA-NITROANILINE
TENNESSEE EASTMAN
Memo WBP to JCH, 7/15/75

J. C. Hutchison - B3NC

H. C. Carder
J. A. Gloeckner - 1740
H. J. Horner - 1740
A. E. Leisy - 1740
Fred Sturm - 1070
M. A. Terpstra

Since I sent you the reference memo, I was informed by Art Leisy that he had some concern about the plant's ability to comply with Tennessee Eastman's proposed specification.

He informed me that tests for water, sulphur, and infrared identity are not made at present. If these tests are required routinely to satisfy Tennessee Eastman's requirements, additional laboratory costs will result.

It appears that we should not contact Tennessee Eastman until the plant arrives at a consensus regarding its capabilities to meet this specification.

W. B. Papageorge

/pd

H. J. Horner and A. E. Leisy:

Please provide us with plant comments reflecting the total plant's involvement which includes manufacturing, quality control and shipping. Economic impact must be considered and the percentage of production which can meet this specification should be stated.

DSW 175388

4

STLCOPCB4049909

W. B. Papageorge B2SK

July 15, 1975

PARA-NITROANILINE
TENNESSEE EASTMAN

H1 C. Carder
J. A. Gloeckner - 1740
H. J. Horner - 1740
A. E. Leisy - 1740
Fred Sturm - 1070
M. A. Terpstra -

J. C. Hutchison - B3NC

The plant has indicated that they have and will continue to meet Tennessee Eastman's preliminary revised Specification 1062-7 for Para-Nitroaniline.

We recommend that Tennessee Eastman be informed that this preliminary specification is acceptable and when it becomes final, we would appreciate receiving a copy for Monsanto's final approval.

W. B. Papageorge

/pd

DSW 175389

46

STLCOPCB4049910

July 15, 1975

Mr. Claude Klapp
County Sanitation District
P. O. Box 4998
Whittier, California 90607

Dear Mr. Klapp:

Enclosed are the two askarel guides which I promised you during our telephone conversation.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

BB
LL

DSW 175390

45

STLCOPCB4049911

July 15, 1975

Director of Federal Register
Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20402

Dear Sir:

Enclosed is our check for $45.00 covering a year's subscription to the document "Federal Register". I would appreciate receiving copies as soon as possible.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175391

44

STLCOPCB4049912

July 14, 1975

Mr. Mitchell A. Monchinski
Sandoz, Inc.
Route 10
East Hanover, New Jersey 07936

Dear Mr. Monchinski:

In response to your request of June 4, I am enclosing two copies of the OSHA sheet and two copies of Monsanto's Product Specification sheet for each of the following products, for which I am responsible:

Ortho-Nitroanisole
Maleic Anhydride
Fumaric Acid
Adipic Acid
Phthalic Anhydride
Monochlorobenzene
Ortho-Anisidine
Para-Anisidine

Monsanto no longer sells Sodium Bisulfate and Benzoic Acid.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
bcc: W. S. Ellsworth/New York
B. D. Heckenberg
J. C. Hutchison
R. F. Sellew

DSW 175392

43

STLCOPCB4049913

July 14, 1975

Dr. Manohar L. Sethi
College of Pharmacy and
Pharmacal Sciences
Howard University
2300 Fourth Street. N.W.
Washington, D. C. 20059

Dear Dr. Sethi:

In response to your request for a sample of Aroclor 1254, I am enclosing a Sample Request Form. If you will have this form completed and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175393

42

STLCOPCB4049914

July 14, 1975

Dr. Peggy J. McCuen
Huntingdon Research Center
Box 527
Brooklandville, Maryland 21022

Dear Dr. McCuen:

In response to your request for a sample of Aroclor 1254, I am enclosing a Sample Request Form. If you will have this form completed and return to me, I will have the sample forwarded to you.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175394

41

STLCOPCB4049915

July 14, 1975

Mr. Dean Meyers
Technical Director
Fine Papers Division
Westvaco
Box 278
Wickliffe, Kentucky 42087

Dear Mr. Meyers:

Attached is a signed copy of your FDA Guaranty form with a modifying attachment.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP/pd
bcc: J. A. Horner
M. J. Redella
F. G. Sutton
J. J. Roder

DSW 175395

40

STLCOPCB4049916

July 14, 1975

Mr. David Welsh
Project Officer
Office of Health Standards
Occupational Safety and
Health Administration
Second & Constitution Ave.
Washington, D. C. 20210

Dear Mr. Welsh:

Enclosed is the production information for PCBs which I offered to send you and a table showing chlorine composition of the Aroclors.

I hope you find the information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBPpd

GG
Prod. Table
plus 1ST quart. 1975

DSW 175396

39

STLCOPCB4049917

July 14, 1975

Mr. Albert C. Clark
Vice President
Technical Director
Manufacturing Chemists Assn.
1825 Connecticut Ave., N.W.
Washington, D. C. 20009

Dear Mr. Clark:

Attached is a completed commitment form designating Monsanto's support of the proposed research program on chlorobenzenes.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd
cc: R. E. Bilger

bcc: H. C. Carder
A. R. Hempel
W. Lorenz
G. J. Levinskas/F. Johannsen
C. C. Sisler

DSW 175397

38

STLCOPCB4049918

W. B. Papageorge B2SK

July 11, 1975

MBR - 1975 GOALS
JOINT ACCOUNTABILITY - CHLOROBENZENES

E. R. Billen - WGK (1740)
H. C. Carder - B3NH
H. J. Horner - WGK (1740)
J. C. Hutchison - B3NC
Mike Terpstra - Q3C

R. E. Bilger
R. W. Flint - 1740
A. R. Hempel
L. A. Miller
R. G. Potter
C. C. Sisler
W. L. Smull- 1890

One of my goals for 1975 is stated as follows:

> "Product specifications and quality control procedures are reviewed and revised as necessary and operational for ___% of the key productsgroups."

The percent range has been set at 30% Basic and 60% Outstanding.

This goal refers to the implementation of Product Acceptability Practices No's. 1, 3, 4 and 5. Among the product groups are the Chlorobenzenes with which each of you is personally involved. Achievement of this goal requires your full participation and cooperation and joint accountability is indicated in the success or failure of achievement.

May I have your comments relating to acceptance or rejection of joint accountability.

W. B. Papageorge

/pd

DSW 175398

37

STLCOPCB4049919

W. B. Papageorge

B2SK

R. E. Bilger
R. W. Flint - 1740
A. R. Hempel
L. A. Miller
R. G. Potter
C. C. Sisler
W. L. Smull - 1890

July 11, 1975

MBR - 1975 GOALS - JOINT ACCOUNTABILITY - PHORPHORUS INTERMEDIATES

E. R. Billen - 1740
H. C. Carder - B3NH
J. A. Hayes - B3NC
H. J. Horner - 1740
A. E. Leisy - 1740
Randolph Perry, Jr. - Q3C

One of my goals for 1975 is stated as follows:

> "Product specifications and quality control procedures are reviewed and revised as necessary and operational for ____% of the key product groups."

The percent range has been set at 30% Basic and 60% Outstanding.

This goal refers to the implementation of Product Acceptability Practices No's. 1, 3, 4 and 5. Among the product groups are the Phosphorus Intermediates with which each of you is personally involved. Achievement of this goal requires your full participation and cooperation and joint accountability is indicated in the success or failure of achievement.

May I have your comments relating to acceptance or rejection of joint accountability.

W. B. Papageorge

/pd

DSW 175399

36

STLCOPCB4049920

W. B. Papageorge B2SK

July 11, 1975

MBR - 1975 GOALS
JOINT ACCOUNTABILITY - CHORALKALIES

R. E. Bilger
R. W. Flint - 1740
A. R. Hempel
L. A. Miller
R. G. Potter
C. C. Sisler
W. L. Smull - 1890

H. C. Carder - B3NH
H. J. Horner - 1740
J. C. Hume - 1740
Randolph Perry, Jr. - Q3C
J. F. Winkler - B3NC

One of my goals for 1975 is stated as follows:

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The percent range has been set at 30% Basic and 60% Outstanding.

This goal refers to the implementation of Product Acceptability Practices No's. 1, 3, 4 and 5. Among the product groups are the Choralkalies with which each of you is personally involved. Achievement of this goal requires your full participation and cooperation and joint accountability is indicated in the success or failure of achievement.

May I have your comments relating to acceptance or rejection of joint accountability.

W. B. Papageorge

/pd

DSW 175400

STLCOPCB4049921

W. B. Papageorge B2SK

July 11, 1975

MBR - 1975 GOALS
JOINT ACCOUNTABILITY - SUEFURIC ACID

E. R. Billen - 1740
H. C. Carder - B3NH
T. L. Corley - 1340
J. A. Hayes - B3NC
J. E. Hawthorne - 1340
N. G. Hobbs - 1410
H. J. Horner - 1740
W. M. Mees - 1410
D. J. Minges - 1090
Randolph Perry Jr. - Q3C

R. E. Bilger
C. T. Eifler - 1340
R. E. Flint - 1740
L. J. Gilbert - 1410
A. R. Hempel
V. T. Matteucci - 1090
W. L. Merman - 1410
L. A. Miller
R. G. Potter
C. C. Sisler
W. L. Smull - 1890

One of my goals for 1975 is stated as follows:

> "Product specifications and quality control procedures are reviewed and revised as necessary and operational for ___% of the key product groups."

The percent range has been set at 30% Basic and 60% Outstanding.

This goal refers to the implementation of Product Acceptability Practices No's. 1, 3, 4 and 5. Among the product groups is Sulfuric Acid with which each of you is personally involved. Achievement of this goal requires your full participation and cooperation and joint accountability is indicated in the success or failure of achievement.

May I have your comments relating to acceptance or rejection of joint accountability.

W. B. Papageorge

/pd

DSW 175401

34

STLCOPCB4049922

W. B. Papageorge B2SK

July 11, 1975

MBR - 1975 GOALS
JOINT ACCOUNTABILITY -
MALEIC ANHYDRIDE

R. E. Bilger
A. R. Hempel
L. A. Miller
W. K. Johnson
R. G. Potter
R. L. Wiese - 1760

H. C. Carder - B3NH
R. A. Geisman - 1760
E. D. Malone - 1760
R. F. Sellew - B3NC
W. D. Robinson- R2E

One of my goals for 1975 is stated as follows:

> "Product specifications and quality control procedures are reviewed and revised as necessary and operational for ____% of the key product groups."

The percent range has been set at 30% Basic and 60% Outstanding.

This goal refers to the implementation of Product Acceptability Practices No's. 1, 3, 4 and 5. Among the product groups is Maleic Anhydride with which each of you is personally involved. Achievement of this goal requires your full participation and cooperation and joint accountability is indicated in the success or failure of achievement.

May I have your comments relating to acceptance or rejection of joint accountability.

W. B. Papageorge

/pd

DSW 175402

33

W. B. Papageorge B2SK

July 10, 1975

SANTOSITE - BETZ LABORATORIES

Memo LG to JFW, 6/25/75

J. F. Winkler - B3NC

E. R. Billen - 1750
H. C. Carder
W. S. Ellsworth - 1650
E. L. Gallipeau - 1940
C. L. Groninger
J. Gloeckner - 1740
H. J. Horner - 1740
Randolph Perry

Jim Gloeckner informs me that based on limited data, Betz Laboratories' requirement that iron in Santosite should not exceed 60 ppm can be met by about one batch out of every three produced. In complying with Betz's request, we would have to resort to additional analyses since iron is not routinely analyzed. We would also be required to segregate and reserve batches for sale to Betz.

We have no information on insoluble iron content and we would like a copy of the analytical method used by Betz to make this determination.

W. B. Papageorge

/jd

DSW 175403

3/2

STLCOPCB4049924

W. B. Papageorge B2SK

July 9, 1975

R. E. Beal
F. J. Fitzgerald

MBR - PROFIT CONTRIBUTION
PRODUCT ACCEPTABILITY -
First Half 1975
Memo RGP dated 3/14/75
R. G. Potter - B3SA

I have reviewed my activities for the first half of 1975 and I believe the following, although difficult to quantify, contributed or will contribute in the future to overall divisional performance income.

(1) Most of my efforts have been related to PCBs, working not only with Monsanto personnel but also with representatives of Federal and State agencies, individual customers, our customers' customers, and electrical trade associations. Areas of specific interest include toxicity of PCBs, presence in the environment (Lake Michigan, silos), analytical procedures, contaminants (furans) and proposed effluent standards. Although interest in PCBs remains high, I see no indications that regulatory measures leading to a ban on PCBs are being seriously considered. In the Great Lakes area, despite all the emotions being generated the "bans" which are proposed appear to be potential legal support for Monsanto's restricted marketing policy. In Michigan an eruption of silo law suits has not occurred. At the Federal agency level, although Dr. Renate Kimbrough's work with Aroclor 1260 has been known since late 1974, no regulatory agency has been fit to take precipitous action.

In summary, our willingness to respond as a cooperative, responsible manufacturer continues to help keep a profitable product line viable.

(2) I have participated with others and independently in programs designed to impress on business group and manufacturing personnel the significance of the proper application of MICC's Product Acceptability practices and the adverse consequences on performance income which could result from poor compliance. This activity does not directly contribute to performance income but hopefully will eventually insure that negative impacts on profits will be eliminated or at least minimized.

DSW 175404

31

Directly related to this activity are the key product specification and quality control reviews being conducted in the Specialty Products and Process Chemicals groups. They are currently about 25% completed.

W. B. Papageorge

/pd

DSW 175405

STLCOPCB4049926

W. B. Papageorge St. Louis B2SK

July 9, 1975

TETRATHAL - 3M SPECIFICATION

B. D. Heckenberg

J. R. Brignola - 1290
H. C. Carder
J. K. Orrell - 1180
J. P. Roarty - 1290
P. R. Parker - 1290
R. Sellew
M. Terpstra
J. B. Willmore - 1290

3M's Specification No. 29134(11-0002-9134-1) has been reviewed by manufacturing and we were informed by Jim Roarty that we can meet it.

3M has suggested that each bag be stenciled with specific information. We strongly suggest that we ship in a shrink-wrapped palletized minimum of 42 bags. Invididual bag marking is, under these conditions, impractical. Also, 3M designates a freight classification of "Chemicals, NOI." Our material is claffified as "Resin Plasticizer."

Will someone review these last two itmms with 3M?

W. B. Papageorge

/pd

DSW 175406

July 9, 1975

Mr. Gary L. Hammond
Materials Management Supervisor
Wisconsin Public Service Corporation
P. O. Box 700
700 North Adams Street
Green Bay, Wisconsin 54305

Dear Mr. Hammond:

Your letter of July 1 has been forwarded to me for response. You are correct in your understanding that Monsanto sells polychlorinated biphenyls (PCBs) only to manufacturers of sealed electrical equipment in which the PCBs are used as insulating fluids.

To the best of our knowledge PCBs should not be present as ingredients in materials commonly used by your company. This does not preclude the possibiliby that PCBs may be present as contaminants, nor can I exclude the possibility that PCBs may be available from foreign sources or from "black market" sources."

Monsanto's program for the withdrawal of PCBs from all other uses became effective in 1970 with the industrial heat transfer fluid application withdrawal occurring in late 1972.

I hope the above information is useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175407

29

STLCOPCB4049928

W. B. Papageorge B2SK

July 9, 1975

SANTOBRITE - EPA REGISTRATION

Mike Marshall

I discussed with Mr. D. D. McCollister, Manager, Government Registration, Dow Chemical Company, our tentative plans for withdrawing Santobrite sales and the probability that our customers may require assistance in re-registering their products using Dowcide G.

Mr. McCollister informs me that in his experience the procedure is relatively simple. All that is required is a letter from our customer to EPA informing them of a change in supplier only, which will not affect the formulation of their product. In his experience this procedure has worked well in the past.

W. B. Papageorge

/pd

DSW 175408

July 9, 1975

Mr. E. Richard Rosenblatt
Polaroid Corporation
119 Windsor Street
Cambridge, Massachusetts 02139

Dear Mr. Rosenblatt:

As Mr. Hatch of our New York office mentioned to you in his letter dated July 2, I am enclosing our Product Specification sheet for Phosphorus Oxychloride.

If I can be of further help, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: L. D. Hatch

bcc: J. A. Hayes

DSW 175409

29

STLCOPCB4049930

July 9, 1975

Mr. Robert M. Beverage
Manager, Chemical Control
S. D. Warren Company
89 Cumberland Street
Westbrook, Maine 04092

Dear Mr. Beverage:

In response to your letter of June 11 addressed to Mr. James A. Horner, Monsize is covered under 21 CFR, Subpart F, Section 121.2592, "Rosins and Rosin Derivatives."

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: J. A. Horner

bcc: V. L. Rhodes
Howard Richardson/Boston

DSW 175410

26

STLCOPCB4049931

W. B. Papageorge B2SK

July 8, 1975

RESPIRATORS - PCB , HCl

D. Wood

The following respirators which are suitable for protection against PCB vapors and HCl gas are listed in the July, 1974 edition of "NIOSH Certified Personal Protective Equipment," and in the supplement dated January, 1975:

MSA® part number 45935 respirator (with part numbers 459317 cartridges) for respiratory protection against not more than 1,000 ppm organic vapors, 10 ppm chlorine, 50 ppm hydrogen chloride, or 50 ppm sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-47, issued to Mine Safety Appliances Co., October 31, 1972. (For dusts and mists, add part numbers 459545(10) or 459693(100) filters and 459027 covers to the above.)

MSA® part number 85557 respirator (with part number 10340 cartridges) for respiratory protection against not more than 1,000 ppm organic vapors, 10 ppm chlorine, 50 ppm hydrogen chloride, or 50 ppm sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-46, issued to Mine Safety Appliances Co., January 2, 1973. (For dusts and mists, add part number 73654 filters and part number 11147 retainers to the above.)

Welsh 7503 respirator (with 7500-3 cartridges) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23-C-65, issued to Welsh, A Textron Co., September 11, 1974.

Welsh 7513 respirator (with 7500-3 cartridges and 7500-6 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts

per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M^3 or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-66, issued to Welsh, A Textron Co., September 11, 1974.

W. B. Papageorge

/pd

DSW 175412

25

STLCOPCB4049933

July 8, 1975

Ms. Jessica McGee
Purchasing Correspondent
Tennessee Eastman Company
Kingsport, Tennessee 37662

Dear Ms. McGee:

In response to your letter of June 16 addressed to Ms. Elsie Silliman, I am enclosing Monsanto's Product Specification sheet and the analytical methods for Para-Nitrochlorobenzene.

I hope you find this information useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: S. G. Lawicki/Akron

DSW 175413

STLCOPCB4049934

July 7, 1975

Ms. Marion Suter
Council of Environmental Quality
722 Jackson Place
Washington, D. C. 20006

Dear Ms. Suter:

Enclosed is the information on Monsanto's PCB manufacture and sales through the first quarter of 1975.

I hope you find this material useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175414

23

STLCOPCB4049935

W. B. Papageorge

July 7, 1975

PCBs - RAT STUDIES

H. S. Bergen
G. L. Bratsch
T. H. Bottini
F. J. Fitzgerald
R. G. Potter
G. Roush
W. W. Withers

This is to confirm the meeting on the above subject to be held Tuesday, July 8 at 10:00 a.m. in Room B-274.

W. B. Papageorge

/pd

DSW 175415

22

STLCOPCB4049936

W. B. Papageorge St. Louis B2SK

July 3, 1975 J. F. Winkler

CARSON CHEMICAL REQUEST

Telex ALS to JFW, 6/30/75

A. L. Smith - 1800

Enclosed are the Product Specification sheets for Chlorosulfonic Acid and Benzyl Chloride, also Standard Analytical Methods for each.

The molecular weight of Benzyl Chloride is 126.58 and for Chlorosulfonic Acid this weight is 116.53.

W. B. Papageorge

/pd

Sent analytical 11,866-b

No. T-1147
10,054
10,362
11,788
10,361
10,007
11,732
10,363

DSW 175416

W. B. Papageorge B2SK

July 3, 1975
SULFURIC ACID

H. C. Carder
J. A. Hayes
H. J. Horner - 1740
Randolph Perry

E. R. Billen - 1740

I note in the investigation summary of Customer Problem Report PC132P (Sulfuric Acid to GAF, Calvert City, Kentucky) that material out of specification was released for shipment by the supervision of the manufacturing department.

Manufacturing supervision does not have authority to release products which do not meet our specifications (see Product Acceptability Practice No. 3). This authority has been given to the chief chemist, who will consult with manufacturing, research and marketing representatives as appropriate before arriving at a decision.

W. B. Papageorge

/pd

July 3, 1975

Mr. Tom Swiger
General Electric Company
R & D Center
P. O. Box 8
Schenectady, New York 12301

Dear Mr. Swiger:

I regret the delayed response to the inquiry you made of Monsanto's Roger Sellew relating to the testing and toxicity data for Maleic Anhydride.

Monsanto has not conducted extensive toxicity studies but I am enclosing a copy of the Hygienic Guide Series data on Maleic Anhydride. As part of a continuing review program we are currently re-evaluating the available information and if any further studies are initiated and additional significant information is generated, I will, of course, forward it to you.

In addition to the Hygienic Guide sheet I have also attached a copy of the Material Safety Data Sheet (OSHA-20).

We are in the midst of evaluating monitoring and analytical procedures and it appears that a collection of vapor and dust in acetone followed by gas chromatographic/flame ionization detection analysis would be appropriate.

Equipment Required:

1. Personal Sampling Pump (Bendix C-115 Personnel Monitor, Bendix BDX Model 40/41 Double Diaphragm Pump, or MSA Gravimetric Sampling Pump).

2. Two (2) midget impingers (Bendix Catalog No. 7202).

3. Gas chromatograph with FID Unit (i.e., Hewlett Packard Series 5720A, Perkin-Elmer Model 3920 Series, or Analytical Instrument Development (AID) Model 511 Portable (GC).

DSW 175418

1a

STLCOPCB4049939

4. Reagent grade acetone. (Fisher Scientific)

5. 10-micro Liter Hamilton syringe.

Procedure:

1) Prepare a series of calibration standards by solubilizing known amounts of maleic anhydride in acetone and injecting one m-Liter of each in the GC unit. The calibration curve will relate peak height or area response to quantity of ug MA present.

2) Connect the two midget impingers in series with the personal sampling pump and add 10 mL of acetone to each impinger.

3) Place the collection unit in the area to be monitored and start the pump controlling the flow rate of 2.5 liters per minute. Sampling duration may vary from 30 minutes to one hour, depending upon the air concentration and analytical sensitivity.

4) During the sampling procedure, the acetone level will probably need "topping-up" due to volatilization losses. Therefore, periodically check the absorbent levels and adjust when needed.

5) At sample completing, disconnect the impingers, seal tightly, and ship to laboratory for analysis.

6) Analyze each 10 mL portion of acetone containing maleic anhydride separately as a check on recovery efficiency of the first impinger.

7) Inject one (1) m-liter aliquots of the sample solutions into the GC unit and determine the amount (ug) of maleic anhydride per mL sample. A larger sample injection may be required to achieve GC detection, or the original 10 mL sample may be concentrated by evaporization.

Another monitoring technique which I will only briefly mention is the collection of maleic anhydride on a porous polymer packing such as Tenax GC column packing and the subsequent analysis of the vapors by direct in-line column GC analysis. A publi-

cation by Dietrich and Mieure describing the technique is attached for further review. Basically the method involves thermally driving the vapors off the column and conveying them by means of carrier gas through the separation column and into the FID unit.

To collect vapors on these type adsorption columns, low flow rates (30-80 ml. per minute) are generally required since at higher rates the vapors easily break through the packing, resulting in poor collection efficiency. Supplier information on a suitable low flow rate pump (duPont Constant Flow Control Personal Air Pump) is attached.

The major advantage of the latter monitoring method is its applicability in personnel monitoring (sampling on the worker) over a time span of 4-8 hours. However, the impingement procedure will most likely produce good results with a minimum of time and money spent on methods development.

I hope the above information is useful. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: R. F. Sellew

DSW 175420

July 3, 1975

Mr. Frank Mueller
General Electric Co.
Engineering Center
Louisville, Kentucky

Dear Mr. Mueller:

I regret the delayed response to the inquiry you made of Monsanto's Roger Sellew relating to the testing and toxicity data for Maleic Anhydride.

Monsanto has not conducted extensive toxicity studies but I am enclosing a copy of the Hygienic Guide Series data on Maleic Anhydride. As part of a continuing review program we are currently re-evaluating the available information and if any further studies are initiated and additional significant information is generated, I will, of course, forward it to you.

In addition to the Hygienic Guide sheet I have also attached a copy of the Material Safety Data Sheet (OSHA-20).

We are in the midst of evaluating monitoring and analytical procedures and it appears that a collection of vapor and dust in acetone followed by gas chromatographic/flame ionization detection analysis would be appropriate.

Equipment Required:

1. Personal Sampling Pump (Bendix C-115 Personnel Monitor, Bendix BDX Model 40/41 Double Diaphragm Pump, or MSA Gravimetric Sampling Pump).

2. Two (2) midget impingers (Bendix Catalog No. 7202).

3. Gas chromatograph with FID Unit (i.e., Hewlett Packard Series 5720A, Perkin-Elmer Model 3920 Series, or Analytical Instrument Development (AID) Model 511 Portable (GC).

4. Reagent grade acetone. (Fisher Scientific)

5. 10-micro Liter Hamilton syringe.

Procedure:

1) Prepare a series of calibration standards by solubilizing known amounts of maleic anhydride in acetone and injecting one m-Liter of each in the GC unit. The calibration curve will relate peak height or area response to quantity of ug MA present.

2) Connect the two midget impingers in series with the personal sampling pump and add 10 mL of acetone to each impinger.

3) Place the collection unit in the area to be monitored and start the pump controlling the flow rate of 2.5 liters per minute. Sampling duration may vary from 30 minutes to one hour, depending upon the air concentration and analytical sensitivity.

4) During the sampling procedure, the acetone level will probably need "topping-up" due to volatilization losses. Therefore, periodically check the absorbent levels and adjust when needed.

5) At sample completing, disconnect the impingers, seal tightly, and ship to laboratory for analysis.

6) Analyze each 10 mL portion of acetone containing maleic anhydride separately as a check on recovery efficiency of the first impinger.

7) Inject one (1) m-liter aliquots of the sample solutions into the GC unit and determine the amount (ug) of maleic anhydride per mL sample. A larger sample injection may be required to achieve GC detection, or the original 10 mL sample may be concentrated by evaporization.

Another monitoring technique which I will only briefly mention is the collection of maleic anhydride on a porous polymer packing such as Tenax GC column packing and the subsequent analysis of the vapors by direct in-line column GC analysis. A publication by Dietrich and Mieure describing the technique is attached for further review. Basically the method involves thermally driving the vapors off the column and conveying them by means of carrier gas through the separation column and into the FID unit.

To collect vapors on these type adsorption columns, low flow rates (30-80 ml. per minute) are generally required since at higher rates the vapors easily break through the packing, resulting in poor collection efficiency. Supplier information on a suitable low flow rate pump (duPont Constant Flow Control Personal Air Pump) is attached.

The major advantage of the latter monitoring method is its applicability in personnel monitoring (sampling on the worker) over a time span of 4-8 hours. However, the impingement procedure will most likely produce good results with a minimum of time and money spent on methods development.

I hope the above information is useful. If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

cc: R. F. Sellew

bcc: W. K. Johnson
G. J. Levinskas

DSW 175423

STLCOPCB4049944

July 2, 1975

Mr. Thomas Kopp
Office of Toxic Substances
Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Tom:

As requested I have enclosed a table showing Monsanto's polychlorinated terphenyl production. You will note we terminated production in early 1972. The predominant material produced was Aroclor 5460.

I have enclosed a copy of our old Technical Bulletin O/PL-306A. In this bulletin you will find information relating to the chemical and physical properties of the chlorinated terphenyls.

When we produced and marketed these materials they were used in the following applications:

Adhesives

Delayed Tack, Emulsion, Pressure Sensitive, Hot Melt

Sealants

Caulking Compounds

Surface Coatings

Paints, Lacquers, Varnish, Paper Coatings

Printing Inks

Miscellaneous

Lost Wax Casting, Impregnating Phenolic Resistors, Laminating Resins, Epoxy Resins

DSW 175424

17

STLCOPCB4049945

I hope this is helpful to you. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175425

STLCOPCB4049946

W. B. Papageorge B2SK

July 2, 1975

PYDRAUL 50E
TOXICITY STATEMENT

A. A. Johnson

Attached for your files is a copy of a letter George Levinskas sent to Armco Steel.

The attached toxicity statement may be used for any similar inquiries you may receive.

W. B. Papageorge

/pd

DSW 175426

STLCOPCB4049947

July 2, 1975

Mr. Stanley Kleinert
Bureau of Standards & Surveys
State of Wisconsin
Department of Natural Resources
Box 450, Pyare Square
4610 University Avenue
Madison, Wisconsin 53701

Dear Mr. Kleinert:

Attached is the affidavit which was offered during the toxic pollutant hearings held by EPA during 1974. I believe this is the document you requested. If not, please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175427

15

STLCOPCB4049948

W. B. Papageorge B2SK

July 2, 1975

TOXICITY AND HANDLING STATEMENTS

A. A. Johnson
C. Paton
J. J. Roder
J. L. Wikoff

G. J. Levinskas - A2SA

Confirming our discussion of June 20, you offered to prepare statements for the following:

(1) Alpha Methyl Styrene Dimer, MCS 1238 and MCS 1588. John Wikoff is anxious to receive a statement to include in a capital project presentation.

(2) Coolanol 25. Jim Roder asked that we submit this statement to McDonnell-Douglas to support the use of Coolanol 25 in the F-18 fighter plane.

(3) A statement comparing the differences in toxicities in phosphate ester Pydrauls (E series) and the Santosafe water glycol mixtures and their use in the South Windsor, Connecticut Cycle-Safe facility.

W. B. Papageorge

/pd

DSW 175428

14

STLCOPCB4049949

July 2, 1975

Mr. C. C. Malmsten
Manager, Purchasing Research
and Administration
United States Gypsum Company
101 South Wacker Drive
Chicago, Illinois 60606

Dear Mr. Malmsten:

In response to your letter of June 9 addressed to Mr. Roy Carlson of Monsanto's Des Plaines office, I am enclosing a Material Safety Data Sheet and Product Specification sheet on Santobrite.

We have analyzed for the presence of heavy metals and have found that none are present in significant quantities (less than 1 ppm). We have also determined that Santobrite does not contain any of the 14 chemicals listed by the Office of Safety and Health Administration on page 10929 of the Federal Register, Volume 38, No. 85, dated May 3, 1973.

Monsanto has discontinued the manufacture and sale of Monflex 4814 and Aroclor 5460.

I regret that I can find no reference to Al. Sulfate Powder in Monsanto's product book.

I hope the enclosed information is useful. If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

bcc. Roy Carlson

DSW 175429

13

STLCOPCB4049950

W. B. Papageorge B2SK

July 2, 1975

H. C. Carder - B3NH
J. C. Hutchison - B3NC
C. C. Sisler - R2E
F. R. Johannsen - A2SC

CHLOROBENZENES - MCA
LITERATURE REVIEW

R. E. Bilger - B3NA

The MCA ad hoc committee on chlorobenzenes met in Washington on June 26 to review the status of the literature search program for chlorobenzenes. The group agreed to take the following actions:

1. A list will be mailed from MCA to interested participants requesting a monetary commitment to conduct the study. It appears that producers will be asked to contribute $5,000, major users $2500 and minor users $1250. It was suggested that the producers solicit their customers for additional funds. Although you had agreed to Monsanto participation not to exceed $5000, I did not find it necessary to make any commitment at this meeting.

2. After reviewing a potential list of about 50 consulting firms, it was agreed to send requests for quotations to Tracor Jitco, Stanford Research Institute and A. D. Little, Inc. Bidders will be requested to respond within two weeks and to quote cost of the study and the estimated time of completion.

Upon receipt of bids selection will be made by committee members, probably by telephone ballot.

3. Producers will be asked to submit all data they possess relating to toxicity studies and human exposure experiences.

Company commitments and consultant quotations are targeted for completion by July 15. Contract for the study will be let by August 15 and it is hoped that the study will be completed by the end of the year.

W. B. Papageorge

/pd

DSW 175430

12

July 2, 1975

Mr. Richard L. Hauser, President
Electrical Utilities Company
2427 St. Vincent Avenue
LaSalle, Illinois 61301

Dear Dick:

Confirming our recent telephone discussion, PCBs can be found in the Draft, Illinois Regulated Toxic Substances list on page 18 and are listed as "chlorinated biphenyl".

Currently it is very difficult to determine the Illinois EPA intentions and we at Monsanto plan to continue to keep abreast of any new developments. I can offer no unique suggestions regarding the course of action you should be following other than attempting to keep up with Illinois EPA activities just as we are. I will inform you of any developments as soon as I can.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175431

W. B. Papageorge St. Louis B2SK

July 2, 1975

PCBS - GREAT LAKES STATES

Memo WHS to CP, 6/24/75

W. H. Slowikowski - 1010

G. F. Fague
A. A. Johnson
K. Rosenberg
D. Mellon - 1010
C. Paton
D. Wood

The articles attached to the reference memo are typical of the hundreds that are being generated by the local press in the Great Lakes area. You will note that there are many inaccuracies in the statements attributed to the state and federal officials.

The PCB concern is centered primarily in the fish from Lake Michigan but further interest has been stimulated as a by-product of the polybromo biphenyl incident.

As you know, we do not sell PCBs to any application other than approved capacitor and transformer manufacturers. The reference to other uses, including household products, is based on the findings by the state laboratories that PCBs are present in such things as hand soaps, zinc alloys, automobile windshield sealant, cutting oils, xerox toner, hydrated lime and automobile primer paint. PCBs appear to be present in the low ppm range; therefore are present as a contaminant and not as a deliberately added ingredient.

There is also some evidence that Dow Chemical and Dow Corning are taking advantage of the situation in Michigan to promote fluids which they manufacture as viable alternatives to PCBs.

Wisconsin, Minnesota and Michigan agencies are all recommending to their state legislatures that PCBs be banned. There appears to be a strong desire in each of these states to be the first in this type of legislation. It appears to me that when they speak of "ban" they are referring to restricted use and currently it seems that they would support Monsanto's sale to dielectric applications.

W. B. Papageorge

/pd

DSW 175432

1C

12

W. B. Papageorge B2SK

July 1, 1975

H. S. Bergen
T. L. Gossage
R. G. Potter
J. R. Savage

DIELECTRIC FLUID SPECIFICATIONS - MEETING WITH NATIONAL BUREAU OF STANDARDS REPRESENTATIVES

J. G. Bryant - T1J
H. J. Horner/Ron Kustra - 1740
C. Paton - B2SC
Q. E. Thompson - T3E
W. R. Richard - T3A
D. Wood - B2SC

This is to confirm the meeting with two representatives from the National Bureau of Standards at 9:00 a.m. on July 23 in Room A-303, which will probably be an all day session.

Room B-275 has been reserved at 10:30 a.m. on July 21 for a pre-planning meeting. It is estimated that this should last about one hour.

W. B. Papageorge

/pd

DSW 175433

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STLCOPCB4049954

W. B. Papageorge

B2SK

July 1, 1975

H. S. Bergen
R. E. Bilger
R. G. Potter
W. R. Richard
C. C. Sisler

SAFETY AND ENVIRONMENTAL ASSESSMENT

T. L. Gossage - B2SL
A. R. Hempel - B3NA
H. C. Carder - B3NH
J. R. Savage - B2SL

Attached is a copy of a revised booklet describing the use of Data Sheets EC-201 and EC-202 as they relate to Monsanto's products.

Within MICC these forms are also used as described in Product Acceptability Practice Paper No. 9, "The Disposal of By-Products and Residues."

I understand business directors, commercial development managers and research directors have received communications from Bill Roos.

I suggest this booklet be read carefully and that each of us makes sure that our activities are in total compliance.

W. B. Papageorge

/pd

DSW 175434

W. B. Papageorge B2SK

July 1, 1975

C. S. Alack
J. T. Garrett
J. M. Kuenz - 1180

DEQUEST PRODUCTS
OHIO EFFLUENT STANDARDS

J. C. Weber

Earlier this year Jim Kuenz reported that Dearborn was concerned about the effluent guidelines adopted by the state of Ohio and requested our comments relating to possible effect on Dequest usage.

We finally obtained a copy of the "Ohio Water Quality Standards." Copies are attached for all recipients.

I have not had an opportunity to thoroughly study this standard but I note references to total phosphorus in discharges to Lake Erie and the Ohio River shall not exceed a daily average of one millogram per liter (lppm).

I suggest someone study this document thoroughly to determine its impact on Dequest usage in Ohio.

W. B. Papageorge

/pd

DSW 175435

7

STLCOPCB4049956

July 1, 1975

Editor, Readers' Quiz
Electrical Construction
and Maintenance
McGraw Hill
1221 Avenue of Americas
New York, New York 10020

Dear Editor:

In responding to Question 17 which appears on page 86 of the June, 1975 issue of Electrical Construction and Maintenance, I have attached information which I hope is useful.

If I can be of further service please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

Monsanto Askarel Guide
ANSI Guidelines
yellow Task Force Rpt.

DSW 175436

6

STLCOPCB4049957

W. B. Papageorge St. Louis B2SK

July 1, 1975

PYDRAUL E SERIES - BIODEGRADATION

Memo HAV to WBP, 6/3/75

H. A. Vodden - 5045

H. S. Bergen - B2SL
R. A. Baxter - 5045
J. F. Herber - T3G
R. E. Keller - T1B
J. P. Mieure - T2F
C. Paton - B2SC
W. R. Richard - T3A
V. W. Saeger - T2B
L. R. Stark - W4A

In response to your memo, Jim Mieure has drafted a statement which is in the attached copy of his memo to me.

I hope this serves your current needs. If you have any comments please let us know.

W. B. Papageorge

/pd

DSW 175437

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STLCOPCB4049958

W. B. Papageorge B2SK

July 1, 1975

R. G. Potter
W. R. Richard
C. C. Sisler

SAFETY AND ENVIRONMENTAL ASSESSMENT

H. S. Bergen - B2SL
R. E. Bilger - B3NA
T. L. Gossage - B2SL
A. R. Hempel - B3NA
H. C. Carder - B3NH
J. R. Savage - B2SL

Attached is a copy of a revised booklet describing the use of Data Sheets EC-201 and EC-202 as they relate to Monsanto's products.

Within MICC these forms are also used as described in Product Acceptability Practice Paper No. 9, "The Disposal of By-Products and Residues."

I understand research directors have received communications from Bill Roos and Clay Callis.

I suggest this booklet be read carefully and that each of us makes sure that our activities are in total compliance.

W. B. Papageorge

/pd

DSW 175438

STLCOPCB4049959

W. B. Papageorge

B2SK

July 1, 1975

MATERIAL SAFETY DATA SHEETS - PYDRAULS
Memo AAJ dated 6/27/75

A. A. Johnson

T. H. Bottini
G. F. Fague
J. E. Herber
G. J. Levinskas
C. Paton
L. R. Stark

I have not seen the Material Safety Data Sheets described in the reference memo but it appears that you are referring to forms supplied by customers which we are asked to complete on a case by case basis.

This type of request should be answered by forwarding the Monsanto Material Safety Data Sheets which have previously been completed and were to be used for this purpose.

I strongly recommend that we avoid as much as possible completing forms submitted by customers and use available Monsanto Data Sheets which in many cases will normally meet the customers' needs.

W. B. Papageorge

/pd

DSW 175439

3

STLCOPCB4049960

July 1, 1975

Mr. Larry W. Robertson
School of Public Health
University of Michigan
Ann Arbor, Michigan 48104

Dear Mr. Robertson:

In response to your letter of June 26, I regret to inform you that I have no information relating to high pressure, liquid-liquid chromatographic separation of PCB mixtures since we have made no studies with this type of separation.

I am enclosing a Sample Request Form. If you will complete this form and return to me, I will have a sample of Aroclor 1254 forwarded to you.

If I can be of further help please let me know.

Sincerely,

W. B. Papageorge
Manager, Product Acceptability
Specialty & Process Chemicals

WBP:pd

DSW 175440

STLCOPCB4049961

PCB

MANUFACTURING

1970

DSW 175441

STLCOPCB4049962

Monsanto

FROM (NAME & LOCATION) E. G. Wright - Anniston, Alabama

DATE : December 29, 1970

SUBJECT : Priority on P.C.B. Residue Analysis

REFERENCE :

TO : J. T. Bell
J. C. Landwehr
M. D. Turner

CC: J. L. Corder
G. L. Jessee
P. B. Hodges - G.O.
W. B. Papageorge - G.O.
W. R. Richard - G.O.
J. R. Savage - G.O.

This memo will serve to set the priorities which will be followed on analyzing the December, 1970 fish samples for P.C.B. residues. Due to the large number of samples (134) and the time and expense required to analyze these samples, we will first analyze the minimum number which Drs. Gunning and Suttkus feel are the ones necessary to ascertain the extent of the residual P.C.B. problem.

These consist of the six target species of fishes at all ten of the sampling stations. This will reduce the number of separate samples from 134 down to approximately 55-60 samples. This should also reduce the total analytical charges from $7,500 to $3,500 for this particular set of samples. Reducing the number of analysis on these samples will also speed up completion of the results. We hope that these samples can be completed by February 15th if the manpower situation is such that one man can be kept on these samples.

The following species of fishes will be analyzed from all ten sampling locations:

	Scientific Name	Common Name
1)	Hypentelium etowanum	Alabama Hog Sucker
2)	Campostoma Anomalum	Stoneroller
3)	Notropis venustus	Blacktail shiner
4)	Lepomis Megatotis	Longear sunfish
5)	Lepomis Macrochirus	Bluegill
6)	Micropterus salmoides punctulatus coosae	Bass

I would appreciate your comments on these priorities. If no comments are received, we will proceed with this priority as outlined.

DSW 175442

E. G. Wright

Monsanto

FROM (NAME & LOCATION) G. L. Jessee - Anniston Plant

DATE : December 28, 1970

SUBJECT : PLANT VISIT BY P. R. ATKINS, UNIVERSITY OF TEXAS

REFERENCE : Same subject - request for approval, Garrett to Jessee, 12-15-70

TO : Jack T. Garrett

General Offices

cc: P. B. Hodges - G. O.
J. C. Landwehr
L. C. Lahman
F. J. Holzapfel - G. O.
W. R. Robirds - G. O.

This Copy For

By copy of this memo, Joe Landwehr will handle contacts and arrangements for Mr. Atkins' plant visit to observe our Niran waste treatment operations. We fully understand the significance of his visit and the subsequent benefits of favorable reporting related to the degradable and treatable properties of wastes from the Niran operations.

G. L. Jessee

G. L. Jessee

:kd

DSW 175443

STLCOPCB4049964

Monsanto

FROM (NAME & LOCATION) Medical Department

DATE : December 15, 1970

SUBJECT :

REFERENCE :

cc: P. B. Hodges, PHODG
J. C. Landwehr, Anniston
W. R. Robirds, WRCBI
E. G. Wright, Anniston

TO : G. L. Jessee
Anniston Plant

As you know Mr. Patrick R. Atkins at The University of Texas at Austin has been after us for some months to examine our parathion treatment operations for a detailed report he is writing on pesticide waste treatment for the FWQA (now EPA--Environmental Protection Administration). Because of some difficulty Mr. Atkins was not allowed to make his visit earlier this year. With approval from both the Agriculture Chemicals and the Organic Divisions, pending your final approval, Mr. Atkins will make his visit on February 22, 1971.

It is extremely important to Monsanto that Atkins writes in his report that parathion is both degradable biologically and treatable in an active biological treatment plant. The only way this can be proven to Mr. Atkins is at our Anniston operation. Atkins work will ultimately be published in book form by the EPA and will be an excellent reference to the fact that the parathions are degradable and treatable. It is for this reason that the two divisions involved have agreed to this visit.

Pat Atkins is a personable young man and a very excellent pollution engineer from an academic standpoint. Would you please show him what he wants to see and give him whatever information he needs that we are free to provide. His only interest is water pollution control of pesticidal materials. Consequently, it is not in the purview of his study to discuss air pollution control or the control of any other pollutants.

For your information, Atkins address is as follows: Patrick R. Atkins, Project Director, Department of Civil Engineering, The University of Texas at Austin, Engineering Laboratories Building 305, Austin, Texas 78712. His telephone number is AC 512--471-5602.

Jack T. Garrett

JTG:ju

DSW 175444

December 15, 1970

Mr. Patrick R. Atkins
Project Director
Department of Civil Engineering
The University of Texas at Austin
Engineering Laboratories Building 305
Austin, Texas 78712

Dear Pat:

I have arranged with the Anniston Plant for you to visit the plant to study the parathion waste treatment facilities on February 22, 1971. You will contact the plant manager, Mr. Gene L. Jessee, Anniston Plant, P. O. Box 249, Anniston, Alabama 36201. His telephone number is AC 205--236-6381, ext. 227. Mr. Jessee will probably have his engineering director, Mr. J. C. Landwehr, handle your visit. Therefore, any correspondence sent to the plant should be sent to both Jessee and Landwehr.

There is an airline flight into Anniston from Atlanta on Southern Airways. If this is inconvenient, the best method to get to the plant is to fly to Birmingham and drive in a rented car. It is likewise possibly to fly to Atlanta and drive to the plant.

Please let us know if we can be of any further help to you in planning your visit to our Anniston Plant.

Sincerely,

Jack T. Garrett
Manager, Pollution Abatement

JTG:ju

c.c. G. L. Jessee
J. C. Landwehr

DSW 175445

STLCOPCB4049966

J. R. Savage - General Office

December 24, 1970

ANNISTON - AROCLOR WASTE COSTS

JCL/JRS 12/15/70

Mr. J. C. Landwehr
Anniston Plant

Messrs.
A.J. Koenig
W.B. Papageorge
J.L. Corder Anniston
P.B. Hodges
A.G. Hill Anniston

At a meeting on December 9, 1970, it was decided that we would move toward total liquid Aroclor production at WGK and, to quote from the minutes (J.L. Corder has a copy),

> "PCB pollution capital at Anniston should be held to aminimum consistent with the phase-out and reasonable control of chlorinated terphenyl".

While only capital is mentioned, expense is also important.

Your 12/15 memo confirms that we will complete three major expenditures --

1) Limestone pit clean-out ($17,000 expense)
This is needed to attain the continuing benefits of the second pit already installed. Two pits, well managed, are probably needed to give reasonable control of chlorinated terphenyl.

2) Reactor-clarifier pilot unit ($11,000 expense)
This should be completed to give design data for WGK, Newport and our customers. I agree that some accounting approach should be found to avoid burdening Anniston manufacturing with this cost, because it is unlikely that the technology will be applied at Anniston. I don't see how chlorinated terphenyl control would justify it.

3) Biological consultants ($4500 more in '70, $18,000 in '71).
Since PCB's may persist in streams for a while after production is stopped, this expenditure is probably needed through '71.

I cannot agree that the "Toxicological Account will be $10M/month in 1971, ($6700 over present budget)...." We simply cannot afford it. Project Development work, in particular, is unrealistic. Even with liquid Aroclor production suspended, we may fail to make 10 ppb by 9/1/71 because of sludges in the stream bed, but a waste treatment system is no answer to that.

I would like to hear from you as to what it would take to get back to the budget level in the Toxicological account, assuming relief on cost of the pilot unit.

DSW 175446

Monsanto

FROM (NAME & LOCATION) J. C. Landwehr - Anniston Plant

DATE : December 15, 1970

SUBJECT : ANNISTON - AROCLOR WASTE COSTS

REFERENCE

cc: J. L. Corder
G. L. Jessee
A. G. Hill

TO : J. R. Savage

General Offcices

This confirms that we will proceed as rapidly as possible on three projects below. Charges will accrue against Solid Aroclor, Liquid Aroclor, Plantwide Sewers, and Plantwide Pollution Investigation.

1.	LIMESTONE PIT CLEANOUT, Mech. Exp.:	$17,000	
	a) Charge to pit acct. (This charge is prorated to Sol. & Liq. Aroclor)	15,500	
	b) Charge to sewers (Spread over whole plant)	1,500	
2.	REACTOR-CLARIFIER PILOT UNIT, Experimental Expense	11,000	
	Charge to Toxicological and thence to Liq. Aroclor. (This should be distributed proportionately to worldwide Liquid Aroclor at Business Group level).		
3.	BIOLOGICAL CONSULTANTS	4,000	
		500	(Expense)
	First trip charge to Plantwide Pollution Investigation since this completes original surveys (in December).		
	(4 Trips in 1971 cost	16,000	
	will be charged to toxicological and thence to Liquid Aroclor)	2,000	(Est. living expense)

As stated in memo of 11/25/70 to R. L. Neary, Toxicological Account will be $10M/month in 1971, ($6700 over present budget) as work proceeds on - a) Carbon Treatment and Clarification tests for Anniston, WGK, Newport and customer application, b) Project Development to meet 9/1/71 target of 10 ppb, and c) Biological consultants and interpretation of their results. Any large amount of travel/time for customer consultation has not been included (some can be scheduled) nor has sample cost for customer samples - we are working on an estimate for this.

J. C. Landwehr

:kd

DSW 175447

IN-10 REV. 11-65

STLCOPCB4049968

FILTRON COMPANY, INC.
SUBSIDIARY OF LIQUIDONICS INDUSTRIES INC.
131-15 FOWLER AVENUE
FLUSHING, NEW YORK 11355

FILTRON

(212) 445-7000
TWX: (710) 582-3015
CABLE ADDRESS: FILSYSTEMS—NEW YORK

22 December 1970

Monsanto Company
277 Park Avenue
New York, N. Y. 10017

Attention: Mr. Randall Graham
Senior Fluids Specialist

Dear Sir:

Reference is made to your letter of 15 December 1970.

Filtron generates approximately 36 each 55 gallon drums of liquid scrap material annually. This material is a mixture of aroclor, mineral oil and vacuum pump oil. At the present time, we have about 40 each drums of described material on hand.

Sincerely,

FILTRON COMPANY, INC.

Jack R. Abrams

JRA:jbt

DSW 175448

ERIEZ MAGNETICS

ASBURY ROAD AT AIRPORT • ERIE, PENNSYLVANIA 16512, U.S.A.
814/833-9881
TLX: 91-4470

HEADQUARTERS DIVISION

December 28, 1970

Monsanto Company
277 Park Avenue
New York, New York 10017

ATTENTION: Mr. Randall Graham

REFERENCE: Your letter of December 15, 1970

Dear Mr. Graham:

We are manufacturers of magnetic equipment. Some of this equipment is of the oil filled type and only a small quantity of this oil filled type uses the non-flamable Askarel. We probably use only about an average of 600 gallons per year.

As we are original equipment manufacturers, we ourselves do not have the problem of disposing of used Askarel, however, some of our customers will have this problem. We intend to include a paragraph in our instruction manuals referring our customer to Monsanto if and when they are renewing the Askarel and to request directions from Monsanto for disposal of the old.

Thank you.

A. W. HAMILTON
Chief Design Engineer

AWH:dms

DSW 175449

THE WORLD AUTHORITY IN MAGNETICS AS APPLIED TO SYSTEMS AND COMPONENTS FOR POLLUTION CONTROL, MATERIAL MOVEMENT, SEPARATION, PURIFICATION, BENEFICIATION, RECLAMATION AND AUTOMATION
Eriez Manufacturing Company Facilities In: ERIE, PA • TORONTO, CANADA • SAO PAULO, BRAZIL • PARIS, FRANCE • JOHANNESBURG, SO. AFRICA • SYDNEY, AUSTRALIA • LONDON, ENGLAND • TOKYO, JAPAN

Westinghouse Electric Corporation

South Boston Power Transformer Division

Box 920
Highway 58 West
South Boston Virginia 24592
(703) 575 7971

December 22, 1970

Monsanto Company
277 Park Avenue
New York, New York 10017

Attention: Mr. Randy Graham

Subject: Inerteen Disposal.

Gentlemen:

Westinghouse, South Boston, will have perhaps 10,000 gallons/year of liquid waste to dispose of, and an additional 20 drums of contaminated solids. These solids will be mostly cellulosic in nature, but there will be some activated clay and absorbent compound. I cannot hazard a guess as to the weight or quantitative mixture of the solids.

Please bear in mind that Monsanto's disposal price must be competitive with our current method of destruction before we would begin using the proposed facilities.

Very truly yours,

G. J. Hvizdos
Buyer

egv

DSW 175450

STLCOPCB4049971

HIGH ENERGY, INC.

MALVERN INDUSTRIAL PARK • MALVERN, PENNSYLVANIA 19355 • PHONE 215-644-7600

MEMO-LETTER®

TO Monsanto Company
277 Park Avenue
New York, New York 10017

DATE 12-24-70

Attn: Randall Graham

SUBJECT Aroclor Disposal

Dear Mr. Graham:

In response to your letter dated 12-15-70 concerning disposal for contaminated materials, we will be disposing 2x55 gallon drums of aroclor this year.

Yours truly,

Robert W. Buss

Form M-3N72 © The Drawing Board, Inc., Box 565, Dallas, Texas Made in U.S.A.

DSW 175451

NYTRONICS, INC.
CAPACITOR DIVISION
ORANGE STREET • DARLINGTON
SOUTH CAROLINA 29532
TELEPHONE
803 - 393-5421

December 21, 1970

Monsanto Company
227 Park Avenue
New York, N. Y. 10017

Attn: Mr. Randall Graham

Dear Sir:

At present we have no plans to ship spent Aroclor or Byproducts to Monsanto for disposal.

Sincerely,

R. Schrum

RS/rc

DSW 175452

Received 12/29/70. Phone call from Reid and advised him the Nytronics manufactures:
(1) Very little scrap of any kind
(2) Putties mostly land fill.
He will see that Aroclor is not shipped from their organization to Monsanto.

Research-Cottrell, Inc.
BOX 750, BOUND BROOK, NEW JERSEY 08805
AREA CODE (201) 356-2600
CABLE ADDRESS: RESCOTT TWX 201-469-0550

October 9, 1970

Mr. Randall Graham
Monsanto Company
277 Park Avenue
New York, New York 10017

Dear Mr. Graham:

In compliance with your letter of October 1, 1970, we estimate requirements for transformer askarel during 1971 of about 10,000 gallons.

Also, scrap generated would probably amount to zero to 350 gallons.

Yours very truly,

RESEARCH-COTTRELL, INC.

J. T. Wall,
Managing Buyer

JTW:jt

DSW 175453

STLCOPCB4049974

Research-Cottrell, Inc.
BOX 750, BOUND BROOK, NEW JERSEY 08805
AREA CODE (201) 356-2600
CABLE ADDRESS: RESCOTT TWX 201-469-0550

December 23, 1970

Mr. Randall Graham
Monsanto Company
277 Park Avenue
New York, New York 10017

Dear Mr. Graham:

In compliance with your letter of December 15, 1970, we advise that we expect to send no solid PCB contaminated materials for disposal by Monsanto.

Very truly yours,

RESEARCH-COTTRELL, INC.

J. T. Wall,
Managing Buyer

JTW:jt

DSW 175454

STLCOPCB4049975

RELIANCE ELECTRIC COMPANY

December 22, 1970

Mr. Randall Graham
Monsanto Company
277 Park Avenue
New York, N. Y. 10017

Dear Mr. Graham,

In answer to your letter of December 15,1970, I wish to inform you that we use only the liquid Aroclor.

Regarding the amount of liquid Aroclor which will be scrapped in 1971, it is almost impossible to determine this figure. My best guess would be between two to four drums.

Very truly yours,

W. C. Reid
Senior Buyer

WCR;ac

DSW 175455

STLCOPCB4049976

INTER-OFFICE CORRESPONDENCE

Plastic Capacitors, Inc. 2620 N. Clybourn Ave., Chicago, Ill. 60614 • Area 312, 348-3735

Date: 12-21-70

To: MR RUSSELL GRAHAM

Subject: MONSANTO

Reference: AROCLORS

WE EXPECT TO DISPOSE OF APPROX 150 GAL OF AROCLOR IN THE NEXT 2 TO 3 MONTHS.

SIGNED BEN TAHIRA

DSW 175456

STLCOPCB4049977

Monsanto

Monsanto Company
277 Park Avenue
New York, N.Y. 10017
Phone: (212) 922-4111

December 15, 1970

Dear Sir:

Again, I would like to ask for your cooperation in our effort to develope a low cost means of disposal of spent transformer askarel or capacitor Aroclor.

My recent letter requested the amount of liquid scrap material you expect to generate in 1971. We are now in the negotiation phase of this program and urgently need your input. We are asking the Rollins Purle Company to supply an industry quote for their incineration service.

Since we have a solution to liquid disposal our engineers are working on means for handling contaminated solid materials, i.e., insulation, rags, Fullers earth, failed capacitors, etc. We are designing a large kiln and accessory equipment for this purpose and plan to make it available to you.

With this thought in mind, I would also like to ask you to provide the amount and types of solid PCB contaminated materials you might wish to ship to Monsanto for disposal. This information will allow us to size the kiln.

Should you have no scrap, please let us have this information.

Many thanks for your help on this matter.

Cordially,

Randall Graham

Randall Graham
Senior Fluids Specialist

RG:sg

DSW 175457

GENERAL ELECTRIC COMPANY

REDMOND CIRCLE, ROME, GEORGIA 30162 . . . . . TELEPHONE 404-234-0211

MEDIUM TRANSFORMER DEPARTMENT

DECEMBER 22, 1970

CC: L. G. CROWE
D. D. WEST
J. P. KINNEY

MONSANTO COMPANY
277 PARK AVENUE
NEW YORK, NEW YORK 10017

ATTENTION: MR. RANDALL GRAHAM
SENIOR FLUIDS SPECIALIST

PER YOUR REQUEST ON YOUR VISIT TO OUR PLANT IN DECEMBER 1970, AND YOUR LETTER DATED DECEMBER 15, 1970, THE FOLLOWING IS SUBMITTED:

1. LIQUID CONTAINING 10C OIL AND PYRANOL APPROXIMATELY 5,000 GALLONS PER YEAR EVENLY SPACED THROUGHOUT THE YEAR.

2. SOLIDS CONSISTING OF RAGS, WOOD, INSULATION MATERIALS (COPPER, ETC), FULLERS EARTH, AND SAWDUST. APPROXIMATELY 400 POUNDS PER WEEK MORE OR LESS UNIFORMLY SPACED DURING THE YEAR.

THE ABOVE MATERIALS WOULD NOT BE SHIPPED ON A REGULAR BASIS BUT ACCUMULATED AND SHIPPED PERIODICALLY.

T. E. BETHEL, MANAGER
EQUIPMENT DESIGN AND DEVELOPMENT

-GC

DSW 175458

STLCOPCB4049979

Westinghouse Electric Corporation

Research and Development Center
Beulah Road
Pittsburgh Pennsylvania 15235

December 22, 1970

Mr. Randall Graham
Senior Fluids Specialist
Monsanto Company
277 Park Avenue
New York, New York 10017

Dear Mr. Graham:

Re: Estimated Amounts of Aroclor and of Aroclor Contaminated Solids to be Disposed at Westinghouse R&D Center, Churchill Boro Site, Pittsburgh, Pennsylvania 15235

This is in response to your letter of December 15, to Dr. T. W. Dakin requesting the amount of Aroclor to be disposed by us in 1971. The data contained herein pertains only to the activities at the Westinghouse R&D Center located here in Churchill Boro, Pittsburgh, Pennsylvania.

During 1971 we expect to dispose

90 gal of Aroclor (i.e. 1 1/2 drums),
5 gal of Porocel soaked with Aroclor, and
10 gal of rags soaked with Aroclor.

The liquid Aroclor will contain a considerable amount of acetone.

We have already been provided with the procedures to ship scrap liquid Aroclor to Sauget.

Sincerely yours,

Lyon Mandelcorn

Lyon Mandelcorn
Electrical Performance of
Insulating Materials

LM:ljk

cc: R&D CENTER, T. W. Dakin
cc: R&D CENTER, Dr. E. Bindschadler

DSW 175459

Westinghouse Electric Corporation Power Systems

Distribution Apparatus Division

Box 341
Bloomington Indiana 47401
(812) 332 4421

November 13, 1970

Mr. Randall Graham
Senior Fluids Specialist
Monsanto Company
277 Park Avenue
New York, N. Y. 10017

Dear Mr. Graham:

Further to your visit of November 10, I am attaching the information you requested.

Copy of an interim report on Inerteen Control.
List of roof exhaust equipment and air volumes.
List of estimated amounts of process waste Inerteen and associated materials.

If you have further questions please let us know and we will supply what we can.

We appreciate your help in assisting us with our waste effluent problems here at Bloomington.

Very truly yours,

WESTINGHOUSE ELECTRIC CORP.
Bloomington, Indiana

J. Harvey Pickett

Harvey J. Pickett
Manufacturing Engineering

HJP/ld
cc: K. Tison-Bloomington Works
L. Shoaff-Bloomington Works

DSW 175460

STLCOPCB4049981

ROOF EXHAUSTS - AIR VOLUMES - F30

Mechanical rotary Kinney vacuum pump exhausts 2 of 6" manifolds - total of 7 pumps on at 1 time	3500 CFM
Ditto - small Kinney pumps 3 of 2" exhausts	180 CFM
Steam jet pump after-condenser exhausts 4 of 2" on at 1 time (2 stage non-condensing 2" X 3")	200 lbs. air/hr.
Oven tray washer exhaust fan	1000 CFM
Can finish washer exhaust fan	10300 CFM
Solder-seal station ventilating exhaust fan	9000 CFM
Hot P. F. and L. T. oven exhaust fans	4600 CFM

ESTIMATED WASTE MATERIALS

Liquid Aroclor - 20 drums/month
Clay-damp - 3500 lbs/month
Sawdust-wet - 150 bags/month

Materials - Cases 4000 lbs/month = muffler steel
Sections 16000 lbs/month

Sections consist of film-paper-aluminum foil plus retained impregnant after draining (10%).

DSW 175461

Westinghouse Electric Corporation

Box 341, Bloomington, Ind. 47401

November 3, 1970

*Monsanto Company
% Randall Graham
277 Park Avenue
New York, New York 10017

Dear Randy:

I have finally assembled the information that you requested in your letter of October 6th.

My estimate of the scrap arochor generated at Bloomington for 1971 is about 20 drums per month. This is equivalent to 13,200 gallons for the year.

My best estimate of our requirements for 1971 is 2,700,000 pounds.

Also there is the development project using 1232. If this is favorable we should require over 100,000 pounds total during the later part of 1971.

K. O. Tison

Kenneth O. Tison
Buyer, Purchasing

KOT:emc

DSW 175462

STLCOPCB4049983

GENERAL ELECTRIC COMPANY

JOHN STREET, HUDSON FALLS, NEW YORK 12839 . . . AREA CODE 518, TELEPHONE 747-3341

INDUSTRIAL AND POWER

CAPACITOR DEPARTMENT

October 13, 1970

Mr. Randall Graham
Senior Fluids Specialist
MONSANTO Company
277 Park Avenue
New York, N.Y. 10017

Dear Randy:

I have forwarded a copy of your letter of September 29, to Jim Donegan and I am sure that by now he has contacted the Rollins Purle Company. Should he have any further questions, he may wish to contact you.

In regards to the number of gallons of scrap which we may expect to generate during 1971, this should average somewheres in the neighbourhood of 700 gallons per week. This figure does not include the material which we may ship from time to time to Findette.

In regards to our usage estimate of Aroclor for 1971, we feel that this will be in the range of 8,500,000 to 9,000,000 lbs. This estimate is based on normal usage trends thus should we foresee the swing in either direction, up or down, we will do our best to keep you apprised.

Very truly yours,

L.L. Barker
Senior Buyer
Direct Materials

-s

cc: J. Donegan

= 35,000 gal/yr

DSW 175463

STLCOPCB4049984

(802) 442-3173

JARD Company Inc.
Bennington, Vermont 05201

October 21, 1970

Monsanto Company
277 Park Avenue
New York, New York 10017

ATTN: Mr. Randal. Graham

Dear Mr. Graham,

In compliance with your request, we anticipate a maximum of scrap aroclor during the year 1971 with the forecasted usage, as previously supplied, of approximately 85,000 gallons.

Please keep me informed on:

(1) Monsanto's position on its own incinerator.

(2) Rollins-Purle position on incineration of not only waste aroclor but scrap capacitors.

(3) The PCB - environmental pollution situation.

Yours very truly,

JARD COMPANY, INCORPORATED

Richard L. Rollins
Vice-President
Engineering

RLR:t

P. S. Have you seen the Article in Environmental Science & Technology, October, 1970 on PCB's - prevalent and persistent?

DSW 175464

SANGAMO ELECTRIC COMPANY
POST OFFICE BOX 128
PICKENS, SOUTH CAROLINA 29671, U.S.A.
CAPACITOR DIVISION
PHONE. 803-878-6311
TWX 810-397-2496
TELEX: 57-0441

October 16, 1970

Mr. Randall Graham
Monsanto Company
277 Park Avenue
New York, N. Y. 10017

Subject: 1242 and 1254 Arclor

Reference: Your Letter of October 5, 1970

Randall:

According to our best guesstimate, we will have approximately 50,000 pounds of scrap for disposal during the year of 1971. Our estimated usage of Arclor is 1,200,000 pounds of which 1,100,000 is 1242 Arclor.

At the present time we have accumulated 20 drums (12,000 pounds) of used Arclor. We will continue to accumulate until we have a total load of approximately 40 drums and at that time I will request shipping labels from you.

Sincerely,

Charles H. Swinyer
Assistant Purchasing Agent

CHS/cjp

DSW 175465

GENERAL ELECTRIC COMPANY

100 WOODLAWN AVE., PITTSFIELD, MASS. 01201 . . . TEL. AREA CODE 413, 443-3511

POWER DISTRIBUTION DIVISION

RELATIONS AND UTILITIES OPERATION

November 6, 1970

Mr. Randall Graham
Senior Fluids Specialist
Functional Fluids Department
277 Park Avenue
New York, New York 10017

Dear Mr. Graham:

Estimated pyranol wastes from General Electric Company, Pittsfield, are as follows:

Waste	Quantity Lb/Yr.
Pyranol	160,000
Pyranol Contaminated Oil	2,000,000 — use as fuel
Pyranol Contaminated Solids (Like Rags, Paper, Etc.)	50,000

If you have questions, please feel free to call me any time.

Very truly yours,

J. H. Thayer

James H. Thayer
Manager - Pollution Control
Relations & Utilities Operation
Building 43 - 390
Ext. 2269

DSW 175466

/jr

cc: E.L. Raab

max 50 ppm may ordinarily be allowed (confidential)
in air impulse ejection belt.

max oil in reclaimed 3% more
limit if already as allowed

STLCOPCB4049987

GENERAL ELECTRIC COMPANY

100 WOODLAWN AVE., PITTSFIELD, MASS. 01201 . . . TEL. AREA CODE 413, 443-3511

POWER DISTRIBUTION DIVISION

RELATIONS AND UTILITIES OPERATION

November 17, 1970

Mr. Randall Graham
Senior Fluids Specialist
Functional Fluids Department
Monsanto Chemical Company
277 Park Avenue
New York, New York 10017

Dear Mr. Graham:

Estimated pyranol wastes from General Electric Company, Pittsfield, are as follows:

Waste	Quantity Lb/Yr.
Pyranol	160,000
Pyranol Contaminated Oil	2,000,000
Pyranol Contaminated Solids (Like Rags, Paper, Etc.)	50,000

If you have questions, please feel free to call me any time.

Very truly yours,

James H. Thayer
Manager - Pollution Control
Relations & Utilities Operation
Building 43 - 390
Ext. 2269

/jr
cc: E.L. Raab

DSW 175467

STLCOPCB4049988

Electronic Components Division

UNIVERSAL MANUFACTURING CORP.

902 CRESCENT AVENUE
BRIDGEPORT, CONN. 06607
(203) 336-0161

October 9, 1970

Monsanto Company
277 Park Avenue
New York, New York 10017

Attention: Mr. Randall Grahame

Dear Randy:

This is in response to your September 28 letters to me and to Mr. DeMauro. Thank you for the information concerning disposal of scrap Aroclor by incineration. If we find that our present disposal arrangements are not satisfactory, we may find it necessary to resort to this expensive incineration service.

We expect to require in 1971, approximately 2 million pounds of 1242 Aroclor and approximately 16,000 pounds of 1254 Aroclor; we expect the liquid waste to amount to about 30,000 gallons. This will be largely Aroclor, but is a mixture with trichlorethylene, mineral oil, and other miscellaneous liquids.

Best regards,

ELECTRONIC COMPONENTS DIVISION
Universal Manufacturing Corp.

N. Ray Clark, Vice President

NRC/h

cc: A DeMauro
EJ Wickson
GD Rayno

DSW 175468

STLCOPCB4049989

SPRAGUE ELECTRIC COMPANY

NORTH ADAMS, MASSACHUSETTS

December 2, 1970

Monsanto Company
227 Park Avenue
New York, New York 10017

Attention: Mr. Randell Graham

In response to your letter of October 5, 1970 to our Mr. Vail requesting information concerning the generation of scrap and forecast Aroclor usage of the year 1971 the following estimates have been generated.

1- Anticipated Aroclor usage for 1971 — 200,000 gallons

2- Anticipated scrap generation of Aroclor bearing waste not including sealed containers — 231,340 pounds

The clorinol bearing waste described above will occur in forms ranging from nearly 100% Aroclor liquid, to filter cake containing a percentage of Aroclor waste. It will be important from our point of view to know the limitations on handling and transportation of the various forms of waste as generated as well as the cost of incineration for the various types. It is my understanding that you are currently investigating the possibilities for the incineration of this material with Rollins Purle Company and others, and will keep us informed as to the progress of these investigations.

Thank you for your interesting cooperation in this matter.

12/15 Phoned he will provide liq & solid breakdown.

Very truly yours,

SPRAGUE ELECTRIC COMPANY

Noel C. Sears
Manager of Manufacture Engineering

NCS/g
CC/WAllison
BCarpenter
HDavis
GLebert
AVail

X-540
413 664-4411

DSW 175469

STLCOPCB4049990

CENTRAL ENGINEERING DEPARTMENT

PROGRESS REPORT #5

CEA NO.	AR NO.	DATE
2415		December 22, 197

PRODUCT: None

TITLE: Aroclor Waste Disposal

DIVISION	PLANT
Organic	W. G. Krummrich

DISTRIBUTION

CED SECTION MANAGER: R. M. Kountz — DIVISION REPRESENTATIVE: A. L. Rasmussen

CED PROJECT MANAGER: N. B. Wolk (2)

J. F. Adams
O. R. Bailey
J. M. Depp
M. Dmytryszyn
R. E. Doerr
A. J. Komeril
F. W. Enoch
J. R. Fair
R. W. Kaltenrieder (2)
F. P. LaBelle
R. E. Lenz
Russell L. Miller
C. L. Parish
W. R. Pritchard
A. B. Terry
L. H. Todd

W. J. Burkett
P. F. Cunningham
R. E. Howard
R. H. Joslin

General Offices

H. S. Bergen
T. L. Gossage
F. J. Holzapfel
A. J. Koenig
W. B. Papageorge
W. R. Richard
J. R. Savage

W. G. Krummrich Plant

G. L. Bratsch
B. W. Corley
D. W. Jackson

SCOPE

This project provides for facilities to thermally oxidize polychlorinated biphenyls to non-polluting combustion products. HCl gases will be scrubbed to the sewer. The project is being handled on a minimum cost basis with no overtime. Major new facilities include a 10M lb/yr liquid incinerator with auxiliaries.

DSW 175470

CONFIDENTIAL INFORMATION

THIS DOCUMENT IS THE PROPERTY OF MONSANTO COMPANY AND THE RECIPIENT IS RESPONSIBLE FOR ITS SAFEKEEPING AND DISPOSITION. IT CONTAINS CONFIDENTIAL INFORMATION WHICH MUST NOT BE REPRODUCED, REVEALED TO UNAUTHORIZED PERSONS OR SENT OUTSIDE THE COMPANY WITHOUT PROPER AUTHORIZATION.

CEA (AR) 2415

Data as of November 30, 1970

TITLE

Aroclor Waste Disposal

PRODUCT	LOCATION
None	W. G. Krummrich

			Last Mo.	This Mo.
Appropriation M$, date	430 (November 17, 1970)			
Current estimate M$	430	Process design % complete	100	100
Date of estimate	December, 1970	Engineering % complete	30	50
Expended & comm. M$	139	Construction % complete	0	0
Spent this month M$	9	Expended & committed %	29.5	32
AR completion	May, 1970	Engineering manpower	4	5
Current completion	May, 1970	Construction manpower	0	0

KEY PROJECT DATES

	SCHEDULED	ACTUAL		SCHEDULED	ACTUAL
Project scope report	8/4/70	8/6/70	LP&EC review	--	7/23/70
Project scope meeting	8/12/70	8/12/70	AR data transmittal	8/5/70	8/28/70
Prelim. appropriation estimate	8/ 6/70	8/16/70	Project master schedule	8/28/70	9/1/70
Preliminary schedule	8/4/70	8/12/70	30% estimate	12/4/70	*12/5/70
Project strategy meeting	8/14/70	8/14/70	70% estimate	**	--

* A review indicated lack of sufficient new data. A budget estimate will be made at 40%.

** Not scheduled at this time.

Final vendor drawings covering the incinerator system have been received from John Zink.

Foundation drawings and the first issue of detailed piping drawings have been transmitted to the field.

Instrument design and drafting is 50% complete.

Electrical design and drafting is 15% complete.

Dismantling in the phenol fusion area to clear the jobsite is essentially complete.

N. B. Wolk

N. B. Wolk

EXPENSE

	APPROVED	EXPENDED & COMMITTED	ESTIMATED FINAL COST
Pre-project	$ 2,000	$1,904	$ 2,000
Project	$39,000	0	$39,000
CED Startup	$ 3,000	0	$ 3,000

DSW 175471

STLCOPCB4049992

V
A/GKB05/DE18/1243/1246. /AH970/FI/QZQ

W PAPAGEORGE G O
J SALVAGE G O
J LANDWEHR ANNISTON

CC B W CORLEW - WGK

3 DAY TEST TO NEUTRALIZE TOTAL PLANT EFFLUENT WITH LIME SUCCESSFULLY COMPLETED. WILL HAVE PRELIMINARY ANALYTICAL RESULTS ON PCB BY END OF MONTH.

W C ENGMON
SAUGET ILL

061

3M BRAND "ACTION" PAPER CONTINUOUS INTERLEAVED MOORE BUSINESS FORMS, INC. 25

MONSANTO TC MONSANTO TC

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

R. M. KOUNTZ
R. E. HOWARD
W. B. PAPAGEORGE

CEA NO.	WEEK OF	REPORTED BY	DATE
8042	DEC 14, 1970	R. A. SEIFERT	DEC 18, 197

TITLE

WASTE DISPOSAL — W. G. K. PLANT — AROCLOR SOLU

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. JOHN ZINK CO. PROPOSAL FOR CONNECTING AIR ... GAS SOLIDS WASTE PYROLYSIS UNIT TO THE LIQUID DISPOSAL SYSTEM OF CEA 2145 WAS NOT RECEIVED AS PROMISED ON DEC. 11. PHONED THEIR CHIEF DESIGNER WHO WILL GIVE AN ANSWER NEXT WEEK

2. SENT OPEN PERFORMANCE SPECIFICATION FOR COMPACTOR UNIT IN THE EVENT TIE-IN TO LIQUID SYSTEM OF CEA 2145 IS NOT FEASIBLE TO:

BARTLETT - SNOW - CLEVELAND, OHIO
JOHN ZINK CO - TULSA, OKLA.
LARK ENGR. CO - ST. LOUIS (TAILOR AND CO.)
MONSANTO ENVIRO-CHEM SYSTEMS.

3. INTERVIEWED THE FOLLOWING ORGANIC FLUIDS PERSONNEL RE EXPECTED SOLIDS WASTE AMOUNTS:

DIELECTRICS - PAUL BRAUNIUS
HEAT TRANSFER - JOHN FALLON DOW K...
INDUSTRIAL FLUIDS - DON PARKS
DIRECTOR OF SALES - TAU CORPORATION

ANSWERS IN GENERAL PROVE VAGUE SO - ...

DSW 175473

TO:

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

CEA NO.	WEEK OF	REPORTED BY	DATE
8042			

TITLE

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

3. (Cont) AVAILABLE.

NEXT WEEK, INVESTIGATE THE AVAILABILITY OF A SMALL, SKID-MOUNTED PACKAGED SYSTEM FOR DRUM LOT DISPOSAL PER BOB KOONTZ REQUEST.

PURSUE JOHN PINK ON COMBINATION JOB IN PI.

DSW 175474

Monsanto

FROM (NAME & LOCATION) ANNISTON PLANT - ANNISTON, ALABAMA

DATE : December 16, 1970

SUBJECT : MID-MONTH REPORT

REFERENCE :

TO : J. C. Landwehr

CC:
J. T. Bell
J. L. Corder
W. B. Dunlap
V. R. Haupt
G. L. Jessee
L. C. Lahman
A. G. McCarty
B. O. Severson
W. E. Voss
J. W. Baker - So. 2nd St.
P. O. DeGarmo - So. 2nd St.
M. W. Farrar - So. 2nd St.
W. B. Papageorge - G.O.
W. R. Richard - G.O.
J. R. Savage - G.O.

Attached are summaries from PR&D chemists covering project progress from November 15 to present.

Comments and questions are welcomed.

J. L. Brown

jw

DSW 175475

MID-MONTH REPORT

PROJECT TITLE: Polyphenyl Pilot Studies
PERIOD ENDING: December 16, 1970
PR&D PERSONNEL: J. L. Brown, D. F. Pittman

Progress on Polyphenyl Pilot Studies as outlined in Work Plan VI has been delayed due to control problems. These problems appear to be resolved by making modification to the H_2 off-gas system. This provided better back pressure control as well as eliminating entrained polyphenyls in the off-gas.

Excessive coking has also been a problem with the Biphenyl recycle. Attempts to inhibit this coking have been made by primarily increasing CS_2 concentration.

Construction has begun on #3 tube which is designed with three injection points for evaluation of multiple injections of Cumene promoter. Start-up for the new unit is now targeted for 1/13/71.

D. F. Pittman

D. F. Pittman

J. L. Brown

J. L. Brown

jw

DSW 175476

STLCOPCB4049997

MID-MONTH REPORT

PROJECT TITLE: Aroclor Pollution Study
DEPARTMENT: 916.07
PERSONNEL: I. Ransaw & A. Nelson
REPORTED BY: I. Ransaw
DATE: 12/15/70

Carbon Adsorption Studies

The pilot unit continues to operate with minimum difficulties at an average flow rate of 6 gpm/ft^2. Effluent quality, at the present flow rate, is < 10 ppb Aroclor for average influent concentrations in the range 100-2000 ppb and for occasionally high concentrations of up to 11,000 ppb. There has been no indication of a break through. Present plans are to operate the unit until 12/30 at the present flow. If there is no indication of a break through at that time, all data will be compiled for an evaluation and recommendation by a Pittsburgh carbon consultant.

Filtration Studies

The study conducted to remove the Aroclor containing solids from the effluent of the new neutralization pit by filtration through a sand bed has been completed. At flows greater > 200 cc/min. the filter tended to blind with the fine solids. The solids could not be successfully washed from the filter. A report will be issued by 12/28 on all the filtration studies.

Solids-Aroclor Removal by Flocculation and Flotation

The clarifier unit from Biodize has been received. Plans are now being made for some necessary alterations on the unit. The complete installation is scheduled to be completed by 1/29/70.

Denver Equipment has completed their study on the removal of solids by flocculation and flotation. The most satisfactory flocculation results from these studies were obtained by conditioning with (200 ppm) CAO, and (10 ppb) $Al_2(SO_4)_3$ to preflocculate the solids and then intensifying the floc with (4 ppm) Separan MGL. Initial solids concentrations in the range (100-1000 ppm) were reduced to 19 ppm in a 120 min. settling time.

Flotation of the same material using 56 ppm of Armac T and 30 ppm of Aerofroth 65 produced a final effluent of 34.5 ppm of solids. Solids removal is more dramatic by flocculation, however, the froth may be more effective in removing the organics

Betz is schedule to complete their evaluation and recommendation by 12/21 on the floc study.

A tentative work plan will be issued by 1/4/71.

DSW 175477

I. Ransaw

jw

MID-MONTH REPORT

PROJECT TITLE: Methyl Intermediate Yield Improvement
PERIOD ENDING: December 15, 1970
CHEMIST: G. L. Arnett

Sulfur monochloride chlorination studies outlined in PR&D Work Plan issued December 1, 1970 are approximately 90% complete.

Methyl thio acid chlorinated using chlorine up to 96% level, and then chlorinated to approximately 116% using sulfur monochloride was found to contain an abnormal amount of the "C" isomer, $(CH_3O)P(O)cl_2$. It appears that sulfur monochloride over-chlorinates the pct mass in the same manner as chlorine. (See PR&D report #1, Job #446-603 dated 5/6/69). The sulfur monochloride chlorinated thio acid produced a two layer liquid product that could be separated into essentially pct and what apparently is a mixture of various sulfur chlorides. (See Mid-Month Report issued 11/15/70 for composition of sulfur product identified by Galbraith Laboratories). The reported pct mass distilled normally and produced a fluid residue free of sulfur crystals.

Acetone addition to the thio acid had little effect in reducing the amount of "C" produced when using sulfur monochloride as a chlorinating agent.

Sulfur monochloride was also evaluated as a solvent for the residue obtained from a acetone chlorination (116%) using chlorine. It appears that sulfur monochloride has little solvent effect on the sulfur obtained from the acetone material. This is apparently due to poor surface contact with the sulfur residue.

Sulfur monochloride reacts much slower than chlorine and as a result, would require longer reaction cycles. Sulfur monochloride does produce pumpable residue and would give much relief in the residue handling area. It appears that little, if any, quality gains can be made by using sulfur monochloride due to the formation of "C".

The organic residue recycle study has been temporarily delayed due to an inoperative D.T.A. instrument. (This instrument should be repaired before January 1, 1971). Previous work indicates that the recycle of organic methyl pct still residue is of very significant value in gaining pct yields. T.S.D. has calculated the potential yields based on laboratory data and have found that pct yields increased from the present plant level of approximately 77% to greater than 90%. Based on plant and laboratory conditions it appears that no capacity loss will be suffered from recycling. For example, when compared to 108% plant chlorination levels, recycle batches will require approximately 31% less chlorination time and approximately 15% less distillation time. However, pct yields per batch will be reduced 15% using recycle.

DSW 175478

STLCOPCB4049999

- PROJECT TITLE: Methyl Intermediate Yield Improvement (Continued)

The above yield and capacity data are based on adding 30% (by weight) filtered organic residue to 70% (by weight) thio acid before chlorination. This recycle process was carried out for a total of 5 batches, using the residue from the previously completed batch in each succeeding batch. All recycle batches were chlorinated to approximately 100% to prevent the formation of "C" and "G" impurities. (Over-chlorination occurs at higher chlorination levels). Assays of the distilled material were routinely 96% +. All residue obtained from the recycle material contained crystalline sulfur that could be filtered or centrifuged without complications.

A sample of the filtered organic residue from the 5th recycle batch was sent to St. Louis Research for N.M.R. analysis and was found to be typical of normal pct residue. This indicates that additional runs can be made from the 5th batch organic material.

A new work plan will be issued to further evaluate the recycle process beyond 5 batches before January 1, 1971.

- PROJECT TITLE: Aroclor 5068

A 10 lb. sample of Aroclor 5068 was prepared in the laboratory and sent to L. W. Crovatt at the Pensacola Plant for evaluation as a flame retardant.

- PROJECT TITLE: Aroclor 5465

A 2 lb. sample of Aroclor 5465, soft point 125°C, was prepared in the laboratory and sent to Eastman Chemical Product Division to be evaluated as a hot melt adhesive.

- PROJECT TITLE: Aroclor 5460 Low Soft Point (90°C)

A 2 lb. sample of low soft point 5460 (90°C) was prepared in the laboratory and sent to Sun Chemical Company.

- PROJECT TITLE: W. G. K. Aroclor 1260

A total of 3 days was spent evaluating crude and distilled Aroclor 1260 for W.G.K. Plant.

G. L. Arnett

jw

DSW 175479

STLCOPCB4050000

From the desk of
~~W. B. PAPACHOS~~
~~Robt Kountz~~

12-16-70

Norm Woulk
told me he got this
down to 1½ ± / day.
Did I misunderstand?
No, you're correct. 12/
P

DSW 175480

Monsanto

FROM (NAME & LOCATION) R. M. McCutchan, Krummrich

DATE : December 10, 1970

SUBJECT : CEA 2417 - Aroclor Column Objectives and Key Premises

REFERENCE :

TO :

cc: P. B. Benignus
V. Brawley/T. Carrico
C. Buckley
B. W. Corlew
W. C. Engman/W. Krull
R. M. Kountz
W. B. Papageorge
E. M. Potter/W. E. Gordon
A. L. Rasmussen
W. R. Richard

Messrs.

R. H. Munch/D. R. Cova - So. 2nd
R. L. Neary - G.O.
J. R. Savage - G.O.
N. B. Wolk - G.O.

Attached are three lists of objectives and premises.

I. CEA 2417 (Aroclor column) Objectives to be demonstrated.

II. Key Design Premises.

III. Operational Premises (Dept. 246 - WGK).

Please review these items so that together we can finalize them at the Scope Review meeting to be held the week of Dec. 14 - time and place to be announced later.

A word about the operational premises. This project affects essentially all phases of the Dept. 246 operations. I think it is most important that all business group functions agree upon the premises and resulting impact of this project.

RM McCutchan

R. M. McCutchan

/gjs

attachments

12/11/70

Bill —

Comments on item II, 7? To do better than this means cooling the vacuum jet vapors below city water temperature.

Bob

IN-10 REV. 11-65

DSW 175481

II. CEA 2417 OBJECTIVES

The following objectives will be demonstrated:

1. Meet the CEA 2417 time schedule, start-up on 6/1/71.

2. Stay within budget on construction and start-up costs, $640M capital and $40M respectively.

3. Demonstrate design capacity for MCS-1016 and Aroclor 1142 (crude).

4. Meet specification qualities on all products. Those affected by CEA 2417 are:

   a. MCS-1016
   b. Aroclor 1254
   c. Aroclor 1260
   d. Aroclor 1221

5. No increase in PCB's leaving Dept. 246 via sewers.

6. No significant change in department biphenyl yield.

DSW 175482

II KEY DESIGN PREMISES

1. Any remaining phthalic anhydride in column can be flushed out in initial start-up.

2. Volumetric control is adequate for determining:

   a. End of forecut
   b. Change in reflux ratio
   c. End of forward flow

   Volume control within _____% is necessary and can be achieved.

3. Still pot pressure will not be over 147 mm(290°C) when head pressure is 40 mm.

4. Still pot bottoms will be less than 54% Cl_2 (about 50%).

5. The C. B. 5 level will not exceed 0.39% in the finished MCS-1016.

6. The forecut will re-enter the continuous chlorination system at a point for maximum operational stability.

7. PCB discharge to the atmosphere will be an estimated ~~10~~#/day from the vacuum jet. There will be no significant PCB loss to the sewer from this project, and none from the vacuum jet. All sewers will pass through a settling basin.

8. The severity of potential hazards in Dept. 246 will not be increased by CEA 2417.

9. Stainless steel is a suitable material of construction for the Aroclor fractionating column.

DSW 175483

STLCOPCB4050004

III OPERATIONAL PREMISES

1. Chlorine and biphenyl will be available in adequate quantities and proper quality.

2. W.G.K. will produce MCS-1016; Aroclors 1232, 1254, 1260, and 1221; blends Inerteen PPO, Inerteen 70/30, Inerteen 54201 CM, Pyranol A13B3B, and Therminol FR-0 (Or their equivalent by other names); Therminol FR-1.

3. W.G.K. will/will not produce Aroclor 1242.

4. W.G.K. will <u>not</u> produce Aroclor 1248, 1262, Pydrauls, or Therminols other than FR-1.

5. W.G.K. will rework reclaimable scrap Aroclors or blends.

6. Inerteen 54201CM and Therminol FR-1 will utilize MCS-1016 (or 1242?).

7. The capacity for MCS-1016 will be _____ $\overline{M}$ #/yr. This provides a surge capacity of _____% over expected 1971 demand.

8. The capacity for Aroclor 1142 (crude) will be _____ $\overline{M}$ #/yr. This provides a surge capacity of _____% over expected 1971 demand.

9. The sales and use forecast used in designing this project is:

	1971
Aroclor 1221	2.5 $\overline{M}$
1232	0.1 (approx.)
1242/MCS-1016	53.7
1248	1.3
1254	7.4
1260	7.3

DSW 175484

OPERATIONAL PREMISES (cont'd.)

10. Dept. 246 will have the following delivery capability (Bulk :

MCS-1016	Anytime (and FR-1 if it is MCS-1016)
Aroclor 1254	1 day
Aroclor 1260	2 days
Aroclor 1232	10 days
Inerteen 70/30	Anytime (assuming installation of 70/30 tank)
All other blends	3 days - 80% confidence 5 days - 95% confidence
Aroclor 1221 and 1242	2 days (and FR-1 if it is Aroclor 1242)

11. All products will be available in drums and tank cars. Commercial trailers can be loaded with non-electrical grade products. Electrical grade products can be loaded into trailers reserved for this service.

12. MCS-1016 column bottoms will be distilled and further chlorinated to Aroclor 1254 or 1260. If there is an excess of still bottoms; it will be incinerated. If more 1254 or 1260 is needed, it will be batch chlorinated from biphenyl.

13. Off-gas condensate will be further chlorinated to_____.

14. The operation of the Aroclor incinerator will/will not be integrated to the Aroclor production department.

15. There can be blending of finished lots of MCS-1016 as long as each lot is a complete batch distillation.

16. Construction and tie-in of this project will not interrupt normal production, other than brief shutdowns for piping tie-ins (8-24 hrs.).

17. Customer aceeptance of MCS-1016 will be such that there will not be parallel production of MCS-1016 and Aroclor 1242 for capacitor use.

Monsanto

FROM (NAME & LOCATION): W. B. PAPAGEORGE - ST. LOUIS

DATE : December 16, 1970

SUBJECT : PCB DRUM RETURN

REFERENCE :

TO :
J. R. Savage
J. R. Fallon
P. G. Benignus
J. G. Bryant
B. B. Byrne - JFQ
J. D. Leyerle - JFQ
F. J. Kusiak
T. Rasmussen - KRUMMRICH

cc:
H. Bergen
T. Gossage
R. Sprague
R. Minteer
P.J.A. Marsh
R. Sido

The following program was developed to "close the loop" on PCB contaminated drums.

1. Products containing PCB's will be packaged in 18 gauge, lacquer lined, embossed and uniquely labeled drums.

2. Customers will pay a $10 deposit for each drum received.

3. Empty drums will be returned freight collect to the W. G. Krummrich Plant for credit.

4. The W. G. Krummrich Plant will inventory the returned drums until enough are accumulated to warrant a carefully supervised reconditioning run.

5. The Evans Steel Barrel Co. Inc., 3300 South Second Street, St. Louis, Missouri will buy the contaminated drums for $1.75 each and thoroughly remove PCB's using a fuel oil wash. The contaminated fuel oil will be sent to the WGK Plant for disposal in the PCB incinerator. This washing operation will be monitored by W. G. Krummrich Plant personnel to assure environmental pollution does not occur. The oil-rinsed drums will be further washed by Evans through their normal drum washing system. After final reconditioning (painting, etc.) the drums can be reused.

ACTION PLAN

	Action	By	Target Date
1.	Conduct trial run at Evans	T. Rasmussen	Feb. 15, 1971
2.	Arrange for identification embossing on drum tops	F. Kusiak	Feb. 1, 1971

DSW 175486

STLCOPCB4050007

	Action	By	Target Date
3.	Design with R. Sido appropriate return label	F. Kusiak	Feb. 1, 1971
4.	Negotiate working agreement with Evans	B. Byrne	Feb. 15, 1971
5.	Develop method for communicating to customers	W. Papageorge J. Fallon P. Benignus	Jan. 15, 1971
6.	Communicate to customers	P. Benignus J. Fallon	Feb. 1, 1971
7.	Develop system for drum debit and credit for customers	G. Gibson	Feb. 1, 1971
8.	Develop cost accounting to reflect credit for drums purchased by Evans and cost of freight for returned drums	T. Rasmussen	Feb. 1, 1971
9.	Start program	W. G. Krummrich Plant F. Fluids Marketing	March 1, 1971
10.	Review program. Establish additional recovery centers if need is indicated	W. B. Papageorge Central Purchasing	Sept. 1, 1971

W. B. PAPAGEORGE

ms

DSW 175487

STLCOPCB4050008

Monsanto

FROM (NAME & LOCATION) J. R. Savage - General Office

DATE : December 16, 1970 CC:

SUBJECT : 1970 MANUFACTURING EXPENDITURES

REFERENCE : PCB CONTROL

TO :

Mr. W. B. Papageorge
General Office

Estimated year-end expenditures for PCB control are estimated as follows:

	Capital	Expense
Anniston	$ 81 M	$ 95 M
Krummrich	50 M	45 M
Newport	16 M	15 M
Queeny	0	8 M

J. R. Savage

md

DSW 175488

J. R. Savage - General Office

December 16, 1970

1970 MANUFACTURING EXPENDITURES

PCB CONTROL

Mr. W. B. Papageorge
General Office

Estimated year-end expenditures for PCB control are estimated as follows:

	Capital	Expense
Anniston	$ 81 M	$ 95 M
Krummrich	50 M	45 M
Newport	16 M	15 M
Queeny	0	8 M

J. R. Savage

md

DSW 175489

PROGRESS REPORT TECHNICAL SERVICES DEPT. – W. G. KRUMMRICH PLANT	JOB NO. 91370:4119	REPORT NO. (4)	DATE 12,15,70

W.G. KRUMMRICH PLANT			GENERAL OFFICE	OTHERS
☒ G.L. Bratsch	*☒	*☒	•☐ M.P. Lux	Anniston
*☒ D.W. Jackson	*☒	*☒	•☐ D. Danna (4)	•☒ J.C. Landwehr
☐ D.J. O'Toole	*☒	*☒	•☐ D.B. Hosmer/ F.J. Holzapfel	Nitro
•☒ B.W. Corlew	*☒	*☒	•☐ R.E. Howard	•☐ W.R. Kellogg
•☒ R.M. McCutchan	*☒	*☒	*☒ J.R. Savage	S. 2nd St.
*☒ C.F. Buckley	*☒	*☒	•☒ W. Papageorge	*☐ P.O. DeGarmo
☒ L.W. Sprandel	*☒	*☒	•☒	*☐ T.M. Patrick
*☒	*☒	*☒	•☒	*☐ J.F. Quinn
•☒	*☒	*☒	•☒	*☐ R.L. Wiese
•☒	*☒	*☒	*☒	*☒

• TO RECEIVE DETAIL SECTION

TITLE: WATER POLLUTION - AROCLOR CONTROL

PERSONNEL: W. A. Krull (W. C. Engman) B. L. Bigge (T. M. Morrow)

PROBLEM: Reduce Aroclor water pollution at Department 246.

SUMMARY

As a continuation to the Aroclor pollution reduction program, the losses from Dept. 246 were measured at the beginning of 1970 to be in excess of 300 pounds/day with intermittent large spills of 2 - 4000 pounds. These losses occurred at the scrubber and through leaks and spills to the trench sewers.

To reduce the loss at these points, six projects were installed at an estimated cost of $49,400 of which $30,000 was new capital. These projects reduced the Aroclor losses to about one pound per day from the two points.

One additional $40,000 ($37,500 capital) project is approved to install concrete pads and curbing around the tank farm and loading docks. A settling basin will intercept the sewers from these areas. This will reduce losses from water run-off and spills.

Monitoring will continue on the effluent streams from the department.

W. A. Krull
Technical Services Dept.

/br

DSW 175490

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BACKGROUND

This report deals primarily with steps taken within Dept. 246 to reduce Aroclor losses to the sewer. At present, two sewer streams leave Dept. 246. These are the combined trench sewers and the scrubber sewer line.

Trench Sewer Measurement and Modifications

At first, losses here could not be accurately measured but Aroclor was visible in the bottom of the trenches. Two projects were installed which have reduced the loss at this point to 0.5#/day and improved accuracy of measurement.

Project Title	Capital Estimate	Expense Estimate	Approximate Installed Date	Benefits
Sewer Basin 1795 (Bigge)	$7000	$7000	7/1/70	Intercepts Aroclor from large spills and leaks which flow into the trench sewers. Reduced loss to about 0.5 #/day.
Absorber Relief Recycle 1512 (Krull)	$4500	$1500	7/1/70	Recycled relief lines from four absorbers. Prevented large losse to sewer basin from absorbers.

Scrubber Sewer Measurement and Modification

Losses from the scrubber were estimated at about 300 #/day. This breaks down into about 250 #/day liquid and 50 #/day mist which flowed to the scrubber on a routine basis. Non-routine losses occurred due to level controller malfunctions on the continuous blow tank, and lack of piping to enable demisting of off-gas before sewering in Dept. 246. Four projects were installed which reduced the loss at this point to about 0.5 #/day.

Project Name	Capital Cost	Expense Cost	Date Completed	Benefits
Blow Tank Repiping 1493 (Bigge)		$5400	4/1/70	Used intermediate stor age tank to intercept blow tank overflow. Malfunctions of level controller no longer causes loss to sewer. Prevented 2 large spills from going to sewer.

DSW 175491

Scrubber Sewer Measurement and Modification (continued)

Project Name	Capital Cost	Expense Cost	Date Completed	Benefits
Liquid Trap Minor (Production)			2/1/70	Trapped liquid going to scrubber. Reduced loss by 250 #/day.
Off-Gas Piping 1948 (Krull)	$1500		5/14/70	Piping installed to allow off-gas to be demisted before sewering in Dept. 246.
Blow Tank Demister 2031 (Krull)	$17,000	$5500	10/19/70	Installed Brink Mist Eliminator to intercept blow tank gas flowing to scrubber. Reduced loss to 0.5#/day. The reduced air flow increase scrubber capacity to drown HCl. By reworking condensate, about $2,000 per year yield savings will be realized.

Department Losses Summary

Department losses to the sewer through the scrubber and trench sewers have been reduced from more than 300 #/day to about 1 #/day. Provisions to intercept 800 gal. spills have been installed.

Future Work

The losses from the department will be monitored to insure the levels remain at existing low levels. An additional project (#2422) by B. Bigge is approved to install concrete paving and curbing around the tank farm and loading areas. The sewers from these areas will have an intercepting basin (3500 gal.) to catch Aroclor run off from spills and leaks. (EDC design 1/1/71).

Wayne A. Krull

W. A. Krull
Technical Services Dept.

/br

DSW 175492

STLCOPCB4050013

Monsanto
COMPANY

W. B. Sayegerg
Jr.

Anniston, Alabama 36201
Phone: (205) 236-6381

December 15, 1970

Mr. J. L. Crockett, Jr.
Technical Staff Director
Water Improvement Commission
State Office Building
Montgomery, Alabama

Dear Mr. Crockett:

Attached you will find the daily Aroclor 1242 & 1254 losses from the Anniston Plant for the month of November.

At your request, we are also reporting to you the average daily flow and a #/day figure in this report.

Average flow = 500 GPM or 720 M gals./day

Average (1242 & 1254) = 1.476 P.P.M.

Average # Aroclor 1242 & 1254 = 8.85 #/day

We do not feel that the sample which was taken on the 29th is representative of the plant effluent on this date. If this abnormally high concentration (28 P.P.M.) is neglected, the values for the month of November are much more in line with the October values. The averages, excluding this value, for November are as follows:

Average (1242 & 1254) = .323 P.P.M.

Average # Aroclor 1242 & 1254 = 1.94 #/day

This is an illustration of the kind of problems which we discussed with you in regard to sampling and analysis. We have an active program in progress to define these problems. We will be happy, should you desire, to discuss it with you. As we have requested in the past, we would again ask that this data be held as confidential material.

DSW 175493

STLCOPCB4050014

I would also like to apologize for the lateness of this data, but we have encountered a considerable amount of down time during November and early December because of instrument problems. The lag time between sampling date and sampling results should be greatly reduced during December since we are to take delivery on another analytical instrument in December.

Yours very truly,

Eugene G. Wright

Eugene G. Wright
Pollution Control Engineer
Technical Services Department

jw
Att.

DSW 175494

STLCOPCB4050015

Date	P.P.M.	Date	P.P.M.
1	0.074	16	No Sample
2	0.013	17	0.006
3	0.075	18	0.014
4	0.016	19	0.045
5	0.011	20	0.227
6	0.003	21	No Sample
7	0.012	22	0.090
8	0.092	23	No Sample
9	0.009	24	0.140
10	1.800	25	0.980
11	3.600	26	0.013
12	0.004	27	0.014
13	No Sample	28	0.066
14	No Sample	29	28.000
15	No Sample	30	0.135

DSW 175495

J. R. Savage - General Office

December 15, 1970

BIPHENYL CONTENT IN TERPHENYL

Messrs.
W.B. Papageorge
W.R. Richard
J.L. Corder - Anniston

Mr. R. L. Neary
General Office

You requested input to help determine a target level for biphenyl content in Santowax R. The figure we have been using, 0.03%, represents a desirable level, but there is no way to determine whether it is absolutely necessary or whether 0.03% once attained would be good enough for all time.

Perhaps we can turn the question around. We have begun definition of a project for a new Santowax column with the existing one becoming an intermediate stripper. This project will reduce the biphenyl content of Santowax R drastically as well as giving several other benefits. How low can we expect to get? I realize that some assumptions will have to be made as to the improvement in biphenyl column performance as a result of purging intermediates.

J. R. Savage

md

DSW 175496

National Electrical Manufacturers Association
155 East 44th Street • New York N.Y. 10017 • 212 [illegible]

December 14, 1970

Mr. Donald L. Peyton, Managing Director
American National Standards Institute
1430 Broadway
New York, N. Y. 10018

SUBJECT: (PROPOSED) AMERICAN NATIONAL STANDARDS COMMITTEE ON DISPOSAL OF ASKAREL USED IN ELECTRICAL EQUIPMENT

Dear Mr. Peyton:

This letter is being directed to your attention, in my capacity as Secretary of the subject new ANSI project, recommended by NEMA in another letter to you of November 19, 1970.

As indicated in the earlier letter, the need for the establishment of the new Committee is urgent and we hope that ANSI will arrange for a conference on its formation, as soon as possible.

The suggested list of participants at the conference is attached.

Although the November 19 letter suggests that Monsanto assume the responsibility as discussion leader at the conference, NEMA may recommend that one of the utilities listed should do this.

At the time the plans for the conference have been initiated, I will advise you further in this respect.

Sincerely yours,

A. M. Salazar, Executive Secretary
Power Equipment Division

AMS:dk
Att:
CC: J.J. Kark
C.A. Parris
P.G. Benignus - Monsanto Co.
W.B. Papageorge - Monsanto Co.
W.C. Reinhardt - Moloney Electric Co.

DSW 175497

Monsanto

① ~~BILL EA~~ ~~HAN~~

② BILL PAPAGEORGE 12-18-70

FROM (NAME & LOCATION) E. R. Billen, Krummrich

DATE : December 14, 1970

SUBJECT :

REFERENCE

cc: D. L. Weber
D. E. Harris
D. D. Mickelson
B. W. Corlew

TO : J. R. Shafer
M. D. Dealy
E. B. Maurer
F. M. Regula
K. J. Howard

Attached are two different writeups on Aroclor control.

Our progress to reduce the sewer content leaves something to be desired. Each of you must record receipts of Aroclor and disposition. We must be able to account for it in order to solve this plant problem.

I expect each of you to be able to tell me where your receipts went -- starting now. It's serious. Make sure your people know it.

Earl Billen

bp

DSW 175498

F.I.-PCB Manufacturing

POLLUTION CONTROL

AROCLORS & THERMINOLS

Aroclors and Therminols are pollutants and every effort must be made to see that they are not allowed to enter the environment in any way. All precautions necessary must be made to keep these chemicals out of the sewer and off the ground.

Rigid enforcement is necessary and compliance with the following items is a must:

1. PUMPS — Most Aroclor and Therminol pumps leak to some degree. Keep the pump packing tightened to hold leakage to a minimum. Use drip pans to catch the drops and empty the drip pans often to prevent their running over. Keep the pumps clean.

2. DRUMS — Waste Aroclor and Therminol can be put in drums, sealed, labeled or stencilled "For Incineration" and sent to the warehouse south lot. An incinerator is being built and these drums will be safely disposed of. DO NOT allow any drums to go to the "sanitary land fill", so keep them out of the dumpster boxes.

   In order for the material in the drums to be incinerated, it is important to keep all foreign substances out of the drums (no rags, paper, bolts, other chemicals, etc.).

3. CLEAN-UP

   On Floors
   When leaks do occur use floor dry to absorb all liquid possible, then use a scrapper to scrape up all you can and put it in a drum. Use hot water to flush away the rest.

   On Ground
   Any dirt or chat that has Aroclor or Therminol on it must be dug out, (as far down as necessary to remove all that is contaminated) and placed in open top drums. These drums must have lids and are to be sent to the "sanitary land fill" until further notice.

4. LEAKS — REPORT THEM so they can be stopped.

DSW 175499

AROCLORS AND THERMINOLS

POLLUTION CONTROL

Aroclor and Therminol are Poly Chlorinated Biphenyls (PCB) that are produced in Dept. 246. Their use by customers demands the product be stable, and to satisfy the customers, it is produced very stable. So stable, in fact, that it takes an unbearable number of years to decompose when exposed to the elements of nature, especially water.

PCB's have been labeled as pollutants due to some suspected ill effect that they may have on birds. Therefore, every possible effort must be made to keep these products out of the sewers and off the ground. Listed below are several items that may help:

1. Keep a close check on Therminol furnaces. No leaks.
2. When a change of Therminol is necessary, order only the amount needed.
3. Drum the old Therminol or load it in a trailer for disposal.
4. Place drip pans under pump packings and tank vents.
5. Keep Therminol and hydraulic fluid areas clean and neat.
6. Send disposal drums to the warehouse south lot to be held for incineration.

The following people may be useful in answering questions or giving advise:

R. McCutchan	Dept. 246 Supervisor	Sta. 2005
J. Gum	Bulk Distribution Foreman	Sta. 468 (for trailer)
P. Trittler	Warehouse Foreman	Sta. 2689 (for storing drums)

DSW 175500

From the desk of
W. B. PAPAGEORGE

12-16-70

~~H Bergin~~
→ ~~J Mason~~

FYI.
Please return
P

⇒ ~~WPB~~ ~~please check~~

DSW 175501

Monsanto

FROM (NAME & LOCATION) J. C. Landwehr - Anniston Plant

DATE December 14, 1970

cc: J. L. Corder
G. L. Jessee
J. R. Savage - G. O.

SUBJECT AROCLOR REPORTED LOSSES, ANNISTON

REFERENCE

TO W. B. Papageorge

General Offices

This will restate the points we discussed today on reported Aroclor losses.

- November and December experience tells us that the majority of Anniston effluent samples are in a range from 10 ppb - 300 ppb with many of these at or below the 100 ppb level. (Data attached)

- 3 - 5 Samples per month are high, 1000 ppb - 10,000 ppb; some of these can be interpreted and explained as to probable cause, some cannot be and are preceded and followed by low values. These high values greatly increase monthly average ppb values.

- A statistical/multiple sampling program is underway to improve sampling - analytical results precision and accuracy. Initial results are inconclusive; present experiments will be completed by year end.

- When 1221 values are subtracted out (for reporting to AWIC) levels are reduced to 1/2 or 1/3 of total Aroclor value.

- Since the regulatory agencies are interested in lbs./day, discharged and much of our effort is directed toward reducing waste water flow, results should be viewed on a lbs./day basis rather than concentration only.

The pilot clarifier we have obtained from Biodize is scheduled to be installed this week. This action is the step required to keep moving on the 9-1-71 target for 10 ppb. Bill Taffee will be preparing an accelerated schedule directed toward this firm target date.

J. C. Landwehr

:kd
Attachment

DSW 175502

STLCOPCB4050023

AROCLOR LOSSES

November 1970 * ANNISTON - PLANT EFFLUENT

Date	PPB	Lbs./Day	Date	PPB	Lbs./Day
			November - contd.		
1.	100	0.55	28.	1644	10.52
2.	36	0.20	29.	57000	364.57
3.	198	1.10	30.	228	1.4
4.	136	0.39			
5.	111	0.53	** December - 1970		
6.	53	.14	1.	115	0.64
7.	No sample		2.	6	0.03
8.	250	.68	3.	286	1.59
9.	43	.22	4.	212	1.18
10.	6200	31.69	5.	68	0.38
11.	14700	75.15	6.	58	0.32
12.	31	.16	7.	69	0.44
13.	No sample		8.	315	1.75
14.	No sample		9.	938	4.47
15.	No sample		10.	117	0.56
16.	No sample		11.	221	0.90
17.	23	.10	12.	75	0.30
18.	44	.28			
19.	110	.52			
20.	618	3.95			
21.	No sample				
22.	590	3.77			
23.	No sample				
24.	No sample				
25.	2820	18.04			
26.	113	.72			
27.	90	.58			

DSW 175503

* November results influenced by 1) cleanout of limestone pit and bypass ditch, 2) plant laborers taking samples, 3) first experience with freezing weather,

** December - 1) Lab personnel collecting samples, 2) pit cleanout complete, 3) sample systems winterized.

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

TO:
R. M. KOUNTZ
R. E. HOWARD
N. B. PAPAGEORGE

CEA NO.	WEEK OF	REPORTED BY	DATE
8042	DEC 7, 1970	R. F SEIFERT	DEC. 11, 197

TITLE
WASTE DISPOSAL – W. G. K. PLANT AROCLOR SOLID.

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. JOHN ZINK CO PROPOSAL OF FEASIBILITY OF CONNECTING AROCLOR SOLIDS WASTE PYROLYSIS UNIT TO THE OXIDIZING UNIT OF THE CEA 4/15 LIQUID DISPOSER DUE TO-DAY DEC. 11.

2. WROTE OPEN SPECIFICATION ON A COMPLETE DISPOSAL SYSTEM FOR REQUESTING BIDS FROM JOHN ZINK AND OTHERS IN THE EVENT THAT ABOVE PLAN IS NOT WORKABLE.

3. STARTED TO FOLLOW UP ON REPLIES TO RE-QUESTS BY MR PAPAGEORGE TO PLANTS AND MARKETING TO ESTABLISH AMOUNTS AND TYPES OF MATERIAL THEY ESTIMATE THEY WILL SHIP TO THE W. G. K. PLANT. SPEC. IN 2. ABOVE WAS BASED ON OUR BEST GUESS AS TO AMOUNTS AND TYPES.

NEXT WEEK.

WORK ON PROPOSAL IN ITEM 1. ABOVE AND ON ITEM 3.

DSW 175504

STLCOPCB4050025

MR W B PAPAGEORGE
B. BLOG.

DSW 175505

~~B. Ed Pi~~ ~~Yeager~~ - FROM JR TSD MONTHLY REPORT

December Goals - 1. Correct electrical problems in J-W unit.
2. Replace sensing head in MSA unit.
3. Evaluate units.
(L. W. Keith)

D. Waste Treatment Costs

Waste Treatment costs with/without neutralization and secondary treatment were calculated for a profitability study made on the TSCl family.

E. Mercury

The mercury level of the plant's main effluent averaged <.1 ppb in September and <.3 ppb during October. This is within current FWQA limits. However, FWQA says their eventual target is zero mercury loss.

F. PCB

Analytical difficulties have been encountered in measurement of PCB level in our effluent. Corrective action is under way.

Aroclor 1232 drainings from the TSCl HCl system have been stopped by making piping alterations.

A course of action to prevent PCB from entering the environment has been chosen for each of the using departments. Basically they are:

Department	Remedy
WW Building	Switch to Therminol 66
TSCl	Switch to Therminol 66
Phthalyl Chloride	Curb pump - cold trap vent
W Building	Extensive curbing, pump changes, cold trap vents, etc.

A report and appropriation requests for the changes will be prepared during December.

II. Air

A. Vent Sampling

Results of sampling during the past month.

Acceptable	Not Acceptable
#1 crystallizer rework tub (Aspirin)	Acetic Acid Tank (Aspirin)
	Wash Acid Tank (Aspirin)
Scrubber Acid Tank (Aspirin)	Vacuum Still (Benzoic)

Pollution Control

I. Water

A. Acid Segregation - Neutralization (CEA 2107)

The entire plant waste effluent will be diverted through the new 21" diversion sewer (regular sewer is 36") for about two months, starting in mid-December, to enable completion of work at the 4-way gatewell.

The JJJ Building and new city sewers in the east portion of the plant have been seriously damaged by the project contractor and must be replaced. The cost will not be borne by Monsanto.

B. Phenol Abatement

Phenol losses skyrocketed as a result of the shutdown of the phosphate ester extraction unit for replacement of corroded tubes in the solvent still reboiler. Losses for the month averaged 4129 lbs./day. Phenol losses YTD averaged 3669 lbs./day vs. 5437 lbs./day last year.

Sufficient samplers have now been installed to obtain a balance around every branch entering the Geyer Ave. trunk. Flow measurements by the lithium chloride dilution method were made and will be repeated when phosphate ester operation returns to normal.

Operations in the T Building are now scheduled to continue until 1/15/71. There is no possibility of reaching the 1000 lb./day phenol limit until T Building discharges are halted.

Indications persist that phenol losses from phenolphthalein are higher than pegged losses. TSD process group is to attempt to measure actual loss.

December Goals - 1. Measure sewer flows. (J. F. Nemeth)
2. Report status of investigation. (A. E. Peterson)

C. Flammability Monitoring

The MSA explosive vapor monitor with the sensing head protector worked well for 3 weeks until the unit was mistakenly disconnected. When re-connected the unit was inoperative. A new sensing head has been ordered.

The Johnson-Williams detector is still not operating satisfactorily.

STLCOPCB4050028

Monsanto

BILL FOPAGEDOCE

FROM (NAME & LOCATION) John T. Littich, Krummrich

DATE : December 10, 1970

SUBJECT : Status Report: Scrap Aroclor Rework Payments/Aroclor Incineration Billings

REFERENCE :

TO : T. L. Gossage
General Offices

cc: B. W. Corlew
B. Ratliff
T. Rasmussen
D. T. Mayer
P. Benignus
J. R. Savage

1. As of Nov. 30, 1970, 139550 lbs. of Scrap Aroclor has been returned to W.G.K. for rework at a cost to Monsanto of $7039 or .05044/lb.

Date Returned	Returnee	Quantity	Cost/Lb.	Total Cost	Invoice Paid
8/14/70	Westing-house, So. Boston	39400	.02000	$ 788	No*
9/2/70	McGraw-Edison	48600	.06500	$3159	Yes
9/28/70	Wagner Electric	51550	.06000	$3092	Yes
Totals		139550	.05044	$7039	

*Customer notified of receipt of material but has not billed Monsanto as of Nov. 30, 1970.

2. As of Nov. 30, 1970, all customers returning Aroclor for incineration through Nov 2, 1970, have been invoiced at 3¢/lb. unless previous agreements waived billing.

175 drums containing 101325 lbs. have been received. However, due to special customer concessions, billings have been issued for only 45229 lbs. for $1357. The next "billing list" will issue next week.

John T. Littich

/gjs

DSW 175508

STLCOPCB4050029

Monsanto

FROM (NAME & LOCATION) A. L. Rasmussen - WGK

DATE December 7, 1970

SUBJECT WASTE AROCLOR DISPOSAL
KEY PREMISES

REFERENCE

TO :

cc Messrs.
W. B. Papageorge - G.O.
J. R. Savage - G.O.
R. M. Kountz - G.O.
W. R. Richard - G.O.
B. W. Corlew
W. C. Engman
R. M. McCutchan

Messrs.
N. B. Wolk, CED Project Manager
Q. E. Thompson, Research Representative
A. L. Rasmussen, Manufacturing Representative

The above three people met to define the "key premises" for the Waste Aroclor Disposal project, CEA 2415. A key premise may be defined as a major assumption which is not based on proven technology or known facts.

The following are what we consider to be the key premises:

1. The incinerator-scrubber package will perform as designed.

   This system is being purchased from John Zink Company, consequently Monsanto is relying upon Zink's technology. Two days of tests on aroclor materials were run at Zink's pilot plant. A performance warranty has been signed which specifies rates, efficiency, pollution emissions, etc.

2. The incinerator has sufficient capacity to burn all waste PCB liquids returned over the next 2-3 years.

   At the present time, it is impossible to predict how much PCB will be returned. A completely "closed-system" return for incineration of PCB's manufactured would greatly overload the incinerator. Installation of a solids burning system in conjunction with the incinerator could require 1/3 of the incinerator capacity.

3. The incinerator will satisfactorily dispose of PCB liquids containing contaminants.

   The tests at Zink were run only on pure Aroclors, Montar, and Inerteen PPO. We know that the PCB liquids being returned contain various contaminates such as mineral oil, kerosene, xylene, etc. Since these materials can be considered fuels, they should present no major difficulty in incineration.

DSW 175509

STLCOPCB4050030

Some Pydrauls are also to be incinerated. Mixing Pydrauls (containing phosphate esters) with 1260 Aroclor could produce a mixture difficult to burn. With the small quantities involved, we do not feel it justified to run further tests (~$1500 cost) at Zink at this time.

4. The materials of construction will have an acceptable life.

   The materials were selected on the best knowledge available to CED and WGK materials specialists. However, these selections were based on anticipated conditions and no corrosion tests have been made.

5. The tight PCB emission criteria to the sewers can be met without additional treatment of the sewered streams.

   The overflow water from the settling basin and the HCl stream from the scrubbing tower will go directly to the sewer. The project carries some money in undeveloped design for a carbon absorption or other system. However, technology is not currently available for designing such a system.

6. The Montar pickup and handling system will function as envisioned.

   Several problems may prove themselves difficult to resolve:

   a) Pumping the high-crystallizing point Montars.

   b) Proper mixing of the 1242 and Montars.

   c) Settling out of the lime.

7. The incinerator must operate on a round-the-clock, 7-day a week basis.

   The present state of knowledge relative to costs, safety, and maintenance dictate such a mode of operation. The incinerator will be started-up in this manner.

   Initially, we plan to run full-out until inventories are exhausted and then shut down. This will require part-time supervision - possibly the Dept. 246 supervision.

   Experience may dictate another method of operation for subsequent runs.

Waste Aroclor Disposal
Key Premises

8. The aroclor incinerator will be able to burn other combustible waste generated by Monsanto. This assumption is in the back of most people's minds. However, this assumes a) the incinerator will have excess capacities, b) all materials of construction are compatible, and c) the products of combustion will be scrubbed out in the existing system.

   Each proposed material for incineration will need to be considered separately and some sort of tests likely run.

A. L. Rasmussen
A. L. Rasmussen
Technical Services Dept.

/br

DSW 175511

12-8-70

From The Desk Of

W. B. PAPAGEORGE

Copies TO:

P. Hodges - PHODG
B. Corlew - Krummrich
Joe Landwehr - Anniston
F. Macdonald - NEWPORT

WBP

DSW 175512

W. B. Papageorge - St. Louis

December 7, 1970

J. Mason
H. Bergen
F. Holzapfel
G. Bratsch KRUMMRICH
G. Jessee ANNISTON
D. B. Shearn - NEWPORT
P.J.A. Marsh - BRUSSELS

J. R. Savage

One very important objective of our PCB environmental control program was to control the losses of PCB in our plants to achieve a maximum of 50 ppb in the waste water effluent by 1-1-71 and 10 ppb by 9-1-71.

During the month of September, Newport reported an average of 246 ppb. During November Anniston reported 1410 ppb and the Krummrich Plant reported 495 ppb.

Because of the seriousness of the PCB problem this level of performance cannot be allowed to continue. I do not recall that any of the plants have been denied a resource they requested to achieve the stated objectives.

We do not have the luxury of unlimited time to combat this problem. What do we need to reduce losses quickly?

W. B. PAPAGEORGE

ms

DSW 175513

W. B. PAPAGEORGE - ST. LOUIS

December 9, 1970

THERMINOL UNIT -
SANTOPHEN I - DEPT. 239

H. S. Bergen
O. Dressel
S. Heininger
F. Holzapfel
J. Fallon/D. Roush
J. Savage

T. Dalton - KRUMMRICH PLANT

To my knowledge there is no existing policy which dictates that in applications in which fire resistance is not a compelling factor, Therminols containing polychlorinated biphenyl must be replaced.

A policy which is pertinent and must of course be considered is that our locations will control the PCB content of their waste water effluent so that it will not exceed 10 ppb. This level of control you well recognize has never been attempted at any of our plants on any material but we have no alternative but to strive for its achievement.

The responsibility for controlling stream pollution belongs to the location management; therefore, the methods used for control and the justification for acquiring the required resources to manage this responsibility must be the result of location decisions and actions.

I recognize that converting the Santophen I Therminol unit from Therminol FR-2 to Therminol 55 or Therminol 66 will require modification expenditures of $5,000-10,000. If the system has a fairly high potential of becoming a source of PCB pollution, this expenditure would be justified.

However, if the unit can be maintained leak and spill proof, and if controls such as paving, curbing and captive drainage will assure adequate pollution prevention, the continued use of an FR fluid would appear justified.

The costs for upgrading the present system to assure control, the cost of modifying for a new fluid and the probability of losing control must be evaluated to arrive at the best decision.

DSW 175514

If the costs for the two approaches are relatively close, I strongly recommend you replace the fluid with a non-PCB Therminol.

W. B. PAPAGEORGE

ms

DSW 175515

XEROX

SUBJECT: INCINERATION TESTS-
"SOLIDS"

cc J. SAVAGE - G.E
W. PAPAGEORGE - G.E.
R. McCUTCH.

TO: TONY RASMUSSEN

ON DECEMBER 15TH, BILL PAPAGEORGE HAS SCHEDULED A TEST RE "PYROLYSIS + INCINERATION OF AROCLOR CONTAMINATED SOLIDS" AT ENVIROMETH'S "PILOT PLANT" IN THE QUARRY TOMEWHERE IN THE COUNTY.

BILL NEEDS THE FOLLOWING HELP FROM US:

(1) SIX DRUMS OF MISCELLANEOUS "SOLID" WASTES. THESE CAN + SHOULD RANGE FROM A DRUM OF FLOOR SWEEPINGS + GLOVES, TO A DRUM OR TWO OF SPENT PEROCEL TO A DRUM OF CHAT, TO " " OF SPENT CARBON FROM THE HCL (MURIATIC ACID UNIT).

DSW 175516

STLCOPCB4050037

(2) A TECHNICALLY ORIENTED PERSON TO ASSIST WITH THE TESTS ON DEC 15TH. THIS COULD BE A TECHNICIAN, OR WAYNE K OR YOURSELF

WOULD YOU PLEASE TAKE RESPONSIBILITY FOR GETTING THESE TWO THINGS TAKEN CARE OF. BEN WILLIAMS PEOPLE CAN POINT RE SHIPPING THE DRUMS TO THE RIGHT PLACE - MCCUTCHIN, JOE JAMES, DAN WOODS + OTHERS CAN HELP IN COLLECTING APPROPRIATE MAT'L.

Bill Conlan

DSW 175517

Monsanto

FROM (NAME & LOCATION) J. R. Savage - General Office

DATE December 9, 1970

SUBJECT MINUTES - 12/4/70 MEETING ON AROCLOR MANUFACTURING SITES

REFERENCE

TO : Messrs.
T.L. Gossage
P. Benignus
H.S. Bergen
W.B. Papageorge
R.M. Kountz
W.R. Richard
J.L. Corder - Anniston
E.M. Potter

cc: Messrs.
B.W. Corlew
F.J. Holzapfel
P.B. Hodges

C O N F I D E N T I A L

We met to decide whether liquid Aroclor manufacture at Anniston should be phased out. The attached decision diagram was used as a format for the discussion. I have modified it somewhat to reflect the consensus of the group.

The following numbered comments reflect the discussion on the correspondingly numbered blocks on the diagram:

1) Can we make it all at WGK (with modest revision)?

Yes, with 2 additional storage tanks and blow tank area modifications, at a capital expenditure of $220,000. It was suggested that conversion of transformer 1242 to the topped version of MCS-1016 could reduce capital. This was judged to be technically feasible and desirable. However, subsequent discussions with CED and WGK indicate that the best way to defer part of the above capital is to use 1242 in transformers for about 2 more years, then convert.

2) Can we afford to drop some business?

While the above indicates that this would not be necessary, it is still relevant because we have an inquiry from duPont for a million lbs/year of 1268 (or 1272) in an application which they claim to be free of environmental impact. Since we can only make 1268 in Anniston's solid Aroclor equipment, and the profit on this much 1268 would be substantial, this might justify spending PCB pollution control capital at Anniston. We thus cannot state a final yes or no on this question.

DSW 175518

3) Are savings substantial?

Yes, although the exact number is elusive. The most defensible figure seems to be $150M/year. However, if the difference in total capital (discussed below) is smaller than assumed, the figure could be reduced by $15M. On the other hand, the chlorine differential was calculated on '71 standards and Earl Potter gave us odds of only 2/10 that we will achieve the freight rate to Anniston assumed in the standards. If the freight rate stays where it is, the savings in mothballing Anniston are increased by $110M. The likely case is in between, bringing us back to probable net savings in the $150-$200M range.

4) Can we get Δcapital for Anniston pollution?

Capital for Anniston PCB pollution control has been variously estimated for various purposes between $280M and $1000M. The savings discussed above use the maximum WGK capital assumption and the minimum Anniston capital assumption, for a difference of only $60M additional. (The "cost of money" used was 10% in addition to 18% for Depreciation, FIE, and Maintenance). This would leave the question of Montar disposal open, and would not likely get us to our 10 ppb target in Snow Creek. Bill Richard pointed out that we should provide adequate facilities to minimize chlorinated terphenyl losses to postpone pressure on the use of 5432 in Pydrauls. This is perhaps easier than for PCB's. We can also make a case that WGK needs more storage tanks with or without the additional business. Finally, Howard Bergen opined that provided that we do our homework well in the other decision areas, we can get the capital needed to support the decision. (JRS opinion: the capital difference is $200M more at Anniston).

5) Are service/quality/customer relations risks intolerable?

Based on recent customer visits, Tom Gossage gave this an unequivocal "no". There was, however, much discussion to the effect that the load must not be shifted so quickly that Krummrich stubs its toe. The fact that Anniston could be recommissioned is important.

6) Are service/quality risks justified by the savings?

As a corollary to the above, yes, given good WGK performance.

7) Do legal/PR considerations dictate?

The answer seems to be "not quite". While recent Illinois regulatory activity indicates some threat that PCB control at WGK could become politically "hot", Bill Papageorge stated that the Law and Medical Departments and others would welcome a decision to shut down Anniston liquid Aroclor since the legal threats are more imminent and the problems more visible. (There is some uncertainty as to where this block belongs on the diagram).

Conclusions

While some uncertainties remain, we will begin to move toward total liquid Aroclor production at WGK. Specifically:

1. CED will add 2 storage tanks, etc. to the scope of the MCS-1016 project at WGK.

2. We should determine duPont's intentions on 1268 as soon as possible.

3. PCB pollution capital at Anniston should be held to a minimum consistent with the timing of the phase-out and reasonable control of chlorinated terphenyl.

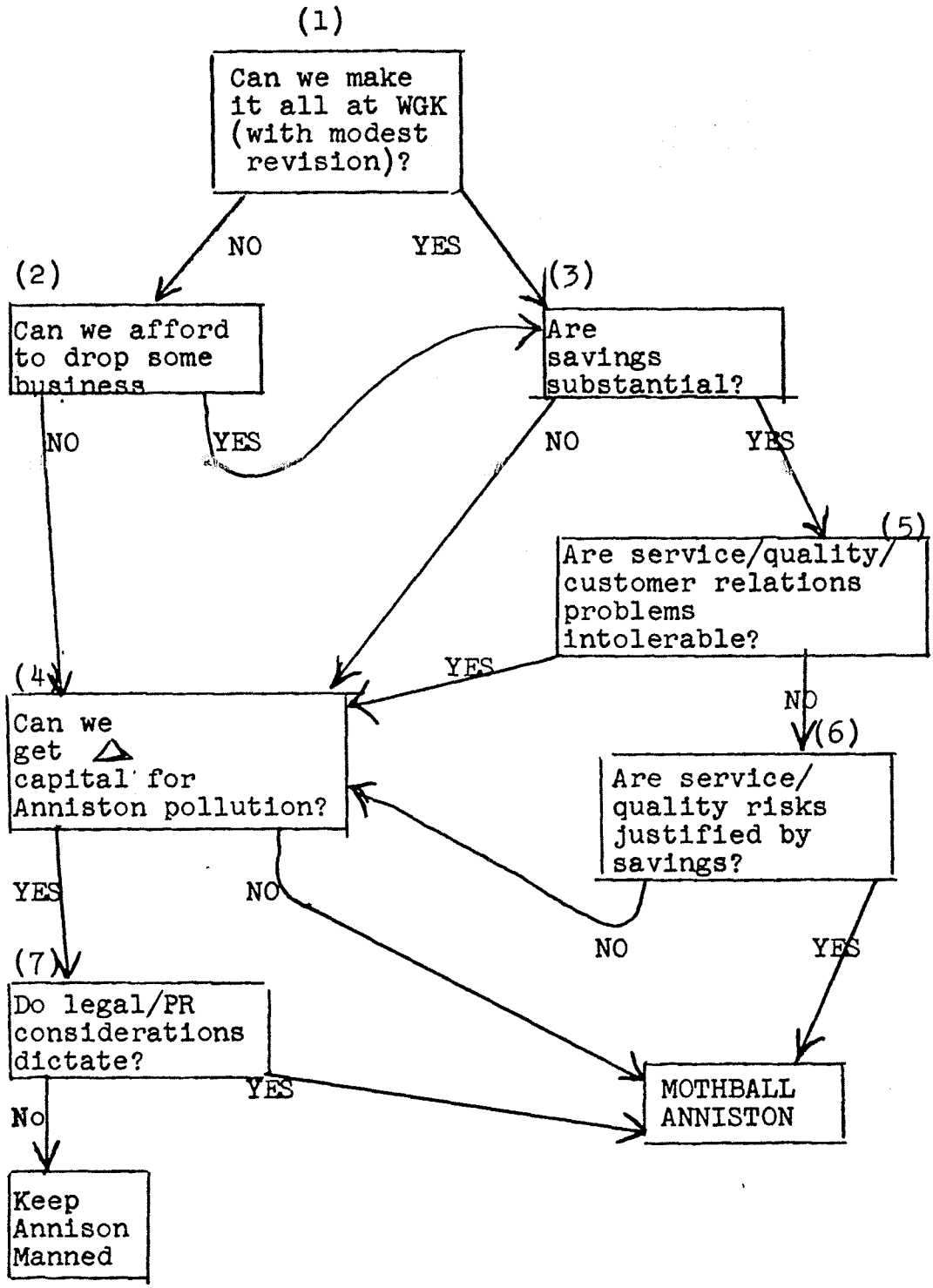
4. As the additional storage at WGK becomes available, a stepwise shifting of the business should begin. The last shift should be 1221, to give best cash flow.

J. R. Savage

md
attachment

STLCOPCB4050041

SHOULD WE MOTHBALL ANNISTON LIQUID AROCLOR?



DSW 175521

PROGRESS REPORT
TECHNICAL SERVICES DEPT. – W. G. KRUMMRICH PLANT

JOB NO.	REPORT NO.	DATE
91370:4119	3	12, 4, 7

W.G. KRUMMRICH PLANT			GENERAL OFFICE	OTHERS
☒ G.L. Bratsch	☒	☒	☐ M.P. Lux	Anniston
* ☒ D.W. Jackson	☒	☒	☐ D. Danna (4)	☒ J.C. Landwehr
☒ D.J. O'Toole	☒	☒	☐ D.B. Hosmer/ F.J. Holzapfel	Nitro
☒ B. W. Corlew	☒	☒	☐ R.E. Howard	☐ W.R. Kellogg
☒ R. McCutchan	☒	☒	* ☒ J. R. Savage	S. 2nd St.
* ☒ W. C. Engman	☒	☒	☒ W. Papageorge	* ☐ P.O. DeGarmo
☒ C. F. Buckley	☒	☒	☒	* ☐ T.M. Patrick
☒	☒	☒	☒	* ☐ J.F. Quinn
☒	☒	☒	☒	* ☐ R.L. Wiese
☒	☒	☒	☒	* ☒

* TO RECEIVE DETAIL SECTION

TITLE: AROCLOR POLLUTION - AIR POLLUTION REDUCTION PROGRAM

PERSONNEL: W. A. Krull (W. C. Engman)

PROBLEM: Determine levels and define problem areas.

SUMMARY

As part of the overal PCB pollution control, a study was initiated to measure the Aroclor air pollution levels and develop a program for reduction. A tentative goal of two pounds/day was set at this time.

The present level as measured and/or calculated from the manufacturing department is about 5-7 pounds/day. Most of this is due to the sparging of Aroclor blends with nitrogen in the mix tanks.

To reduce the losses to 2 pounds/day or less the following should be done.

1. Blanket the mix tanks instead of sparging with nitrogen. EDC 3/1/70.

2. Route the relief lines on the batch chlorinators to the concrete pad. EDC 4/1/70.

Wayne A Krull

W. A. Krull
Technical Services Dept.

/br

DSW 175522

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BACKGROUND

As part of the overall PCB pollution control, a program was initiated to define and reduce the level of Aroclor air pollution from the W. G. Krummrich Plant. This progress report describes the results of this program relative to the Aroclor Production Department.

PROBLEM AREAS

A survey of the department and consequent sampling and calculations defined these problem areas.

Sources	Measured Loss #/Day	Calculated Loss #/Day
1. Mix tanks (while sparging with nitrogen)	Not sampled but visible loss exists.	5.70
2. Tanks and loading areas (assuming 55 M #/yr production)	0.70	0.10
3. Scrubber stack	0.001	0.04
4. Fume removal stack	0.05	0.01
5. Vacuum jets	Not sampled. None observed and condenser should remove most of Aroclor.	No calculations.
6. Therminol Furnace	Not sampled. No visible fumes or odors.	No calculations.
Estimated Totals - About 7.0 #/day.		

The relief lines on four batch chlorinators relieve into the air creating a potential loss.

REDUCTION PROGRAM

To reduce the loss to two pounds per day, a blanketing system should be applied to the mix tanks. The rupture discs on the batch chlorinators should be routed to the concrete pad to eliminate a possible large loss.

W. A. Krull
Technical Services Dept.

/br

DSW 175523

STLCOPCB4050044

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

R. M. KOUNTZ
R. E. HOWARD
W. B. PAPAGEORGE

CEA NO.	WEEK OF	REPORTED BY	DATE
8042	NOV. 30, 1970	R. F. SEIBERT	DEC 1, 197

TITLE
WASTE DISPOSAL - W. G. K.

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. ASSISTED S. VILLANI OF ENVIRO-CHEM TO PREPARE FOR INCINERATION TEST.

2. TUESDAY DEC. 1, OBSERVED AND ASSISTED TEST OF SOLID WASTE CONTAMINATED WITH AROCHLOR AT ENVIRO-CHEM PLANT ON ST. CHARLES ROCK ROAD. SEE ATTACHED COPY OF REPORT.

3. EXPEDITED JOHN ZINK RECOMMENDATIONS RE INCORPORATING SOLID WASTE DISPOSAL WITH THE LIQUID INCINERATOR ON C.E.A. 2415. NO REPLY AS YET.

NEXT WEEK: WRITE PROCESS DATA AND REQUEST BIDS ON A SYSTEM INDEPENDENT FROM CEA 2415 LIQUID SYSTEM. WILL ASK ENVIRO-CHEM TO BID.

WRITE ORDER FOR DEC. 1 TEST AND EXPEDITE TO GET THROUGH ON 1970 BUDGET.

DSW 175524

Monsanto

FROM (NAME & LOCATION) R. F. Seifert (4-6432) - General Offices (Zone 269)

DATE December 2, 1970 CC:

SUBJECT Field Test on Solid Aroclor

REFERENCE CEA 8042 - Waste Disposal

TO : R. M. Kountz
W. B. Papageorge
N. B. Wolk

A test was run by the Enviro-Chem group on Tuesday, December 1, 1970, to investigate the ability of its pyrolysis-type disposer to completely incinerate Aroclor contained in solid waste. This is not the official test report, but I would like to record a few impressions of the results.

Various types of waste were tested during a routine run on municipal trash. The latter was principally paper, plastics, foil, leaves, cans, bottles, etc., and was fed at a rate of about 1-1/2 tons per hour. The Aroclor waste to be tested consisted of the following:

> About 1000 pounds of electrical condensers composed of thin sheet steel cases, paper, aluminum foil, and a small amount of Aroclor. These had been previously reduced on Wednesday, November 25, to loose scrap in the rotary mill located ahead of the pyrolysis unit to facilitate processing. Two drums of condensers made about nine drums of loose scrap.
>
> There were four drums of granular material from the W. G. Krummrich plant. Two contained chat floor sweepings from Department 246, and one contained cinders from Department 275. There was also a drum of Porocel filter media, and about one-half drum of miscellaneous wood, filter plates, rags, bottles, etc., saturated with Aroclor. Several carboys of a carbon/muriatic acid slurry from the Krummrich plant were not put through the system because the material was deemed too corrosive.

A small quantity of electrical material from Moloney Electric Company consisted of wood saturated with Aroclor, some electrical ballasts, and wire.

The condenser scrap was fed by bucket at about 7-1/2 to 10 pounds per minute through an access door to the ram feeder of the pyrolyzer. The granular scrap was fed at about 40 pounds per minute through the same opening. Residence time in the pyrolysis unit was about 7 minutes at a temperature of about 1400 to 1500 F.

DSW 175525

Mr. Scott Tucker of Organic Research set up a gas analysis sample collection system to monitor the test.

In general it was concluded:

1. That solid scrap can be reduced to processable size by commercially available equipment.

2. Aroclor can be driven off from solid waste and pyrolyzed in a kiln-type unit.

3. The off gases from the kiln can be completely burned in the oxidizer. Although the stack gases at times were very smoky, the operators, Messrs. Sal Villani, Kurt Snow, et al, did not believe that it was caused by Aroclor as there was no organic-type odor detectable in the stack gas.

R. F. Seifert

eb

From the desk of

F. F. SEIFERT

MR. W. B. PAPAGEORGE

ATTACHED IS A COPY OF THE REQUEST FOR QUOTATION TO ENVIRO CHEM.

I HAVE REQUESTED SPECIAL HANDLING SO WE CAN CLEAR BEFORE END OF BUDGET YEAR.

BOB K. WANTS PRICE BEFORE WE PLACE ORDER. B.

DSW 175527

STLCOPCB4050048

Monsanto
REQUEST OR REQUISITION TO

☐ OBTAIN ESTIMATED PRICE & DELIV. ONLY.

☑ OBTAIN FIRM QUOTATION AND
- ☐ Vendor's Spec. of Equipment
- ☐ Vendor's Drawing or Sketch
- ☐ Vendor's Descriptive Bulletin

☐ PURCHASE (Fill in Req. No.)
- Spec. Attached (Y)
- Dwg. Attached (Y)

☐ CHANGE (Fill in P.O. No.)
- ☐ Spec. Attached (Y)
- ☐ Dwg. Attached (Y)
- ☐ List Attached

ATTENTION OF: (FILL IN FOR PURCHASE AND CHANGE ONLY)	PROJECT (CEA) NO.	REQUISITION OR QUOTATION NO.	REQUISITION DATE	DATE DELIVERY REQUIRED
E.L. OTTO F2E106	8042 - -		DEC. 1, 70	
			ENGINEER NO.	DATE QUOTE REQUIRED

1. SUGGESTED VENDOR (If closed bid, explain below) MONSANTO ENVIRO-CHEM	PURCHASE ORDER NO. C.E. 1112		VENDOR NO.	
2. SYSTEMS	F.O.B.		TERMS	
3. 800 N. LINDBERGH BLVD	BUYER NO.	SHIP DATE	TRANSIT TIME	
4. ST. LOUIS, MISSOURI	REQUISITION BY	PROJECT EXPEDITER	FIELD ENGINEER	
5. 63166	PHONE QUOTE	REQUEST FOR QUOTATION	ORDER	

NO.	QUANTITY	DESCRIPTION (Drawing & Specification No. If any)	UNIT PRICE
		CAT. – AREA – EQUIP. NO. ☐ For Pollution Control --- -- ---- ----	
		PERFORM PILOT PLANT TESTS ON DEC. 1, 1970 ON THE INCINERATION OF THE FOLLOWING WASTE MATERIALS CONTAINING AROCHLOR 1242, AROCHLOR 1260, AND INERTEEN:	
	2 DRUMS	STEEL-CLAD ELECTRICAL CONDENSERS – 100LB	
	3 DRUMS	FLOOR SWEEPINGS, CHAT AND CINDERS – 180LB	
	1 DRUM	PORCEL – 20LB	
	½ DRUM	WOOD, FILTER PLATES, RAGS ETC –	
		THE PURPOSE OF THE TEST IS TO VERIFY THE FEASIBILITY OF COMPLETE DESTRUCTION OF PCB IN SOLIDS AND THE OPTIMUM CONDITIONS REQUIRED. DATA REQUIRED:	
		TEMPERATURES	
		RESIDENCE TIME	
		EXCESS AIR REQUIRED	
		AMOUNT OF AUXILIARY FUEL	
		AROCLOR, HCl, AND Cl_2 IN STACK GAS.	
		MONSANTO WILL ASSIST WITH ANALYTICAL METHODS FOR AROCLOR AND INERTEEN	
		CHARGE TO: 18-000-761.31-168/3-8042	

VENDOR DATA REQUIREMENTS WORKSHEET FORM CE-254 ATTACHED. ☐ YES ☐ NO

INSPECTION BY MONSANTO PRIOR TO SHIPMENT. ☐ YES ☐ NO

REQUISITIONER (SIGN CLEARLY) R.H. Seifert EXT. 6432

APPROVAL R.E. Spm.

CE - 54 (3/69)

DSW 175528

PURCHASING COPY

STLCOPCB4050049

CONFIDENTIAL

PROGRESS REPORT

JOHN F. QUEENY PLANT

TECHNICAL SERVICES DEPARTMENT

ESTIMATE NO.

JOB NUMBER 370-E-820

REPORT NO. 1

DATE December 4, 1970

JOHN F. QUEENY PLANT		GENERAL OFFICES	OTHER	
☐ L. AYNARDI	☒ D. C. MALM (2)	☐ D. DANNA (4)	☒ W. C. ROOS/T. M. PATRICK	☒ D. E. Roush - G.
☐ J. BERTOGLIO	☐ E. D. MALONE	☐ F. J. HOLZAPFEL	☒ D. DEGARMO/J. F. QUINN	☒ G. B. Papageorge
☐ R. H. BURR	☒ D. E. MUNIE	☐ D. B. HOSMER	☐ J. C. LANDWEHR - ANN.	☐ G. O.
☐ J. D. CLARK	☐ D. B. REDINGTON	☐ R. E. HOWARD	☐ H. L. WILLIAMS - NITRO	☐
☐ F. W. COPANAS	☒ J. E. RODGERS	☐ M. P. LUX	☐ J. F. WINKLER - BRIDGEPORT	☐
☒ K. H. FRANK	☐ J. L. SOLARI	☐ BUSINESS GRP. DIR. ( )	☐ L. J. GILBERT - EVERETT	☐
☒ J. D. GARRISON	☐ E. F. TAKE	☒ MANUFACTURING MGR. (J. R. Savage)	☐ D. W. JACKSON - WGK	☐
☐ P. F. GATENS	☐ B. L. TILFORD	☐ RESEARCH MGR. ( )	☒ W. G. Knapp	☐
☐ R. A. GEISMAN	☒ R. L. WIESE	☐ BUSINESS GRP. ENG. MGR. ( )	☒ O. J. Marchand	☐
☐ G. A. HIPPE	☐ W. J. WILSON		☐	☐
☒ M. J. KAUSCH	☐ G. R. WOOD		☐	☐
☒ A. E. Peterson	☒ TSD FILE		☐	☐
☐	☐			

[*] To Receive Details Section [x] To Receive Summary Only

TITLE: PCB -- Review System in Plant

PERSONNEL: E. Gruetzemacher/E. Hargens

PROBLEM: Considerable emphasis has been focused recently on polychlorinated biphenyl losses to the environment. All systems must be reviewed to ensure compliance with loss limitations.

SUMMARY: PCB type Aroclors are used or handled in 5 departments at JFQ. Losses to the plant waste effluent greatly exceed Monsanto's self-imposed limitation of 10 ppb and immediate corrective action is required to meet the 12/31/70 deadline for compliance. Every means possible must be taken to prevent these Aroclors from entering our waste effluent or being absorbed in the ground. Tank washings will be sent to the toxic dump and used material will be destroyed by incineration at WGK. Volatile losses to the atmosphere must be eliminated.

Monsanto is taking decisive action based on evidence that PCB is a persistent chemical which builds up in the environment. One of the PCB's, Aroclor #1248, is highly resistent to degradation. This product is used in two electrically heated units in the "WW" Building; Organic Research Pilot Plant. These units are portable and are used on many different kettles. Therefore, in addition to the normal stuffing box leakage, there are problems with leakage and/or spillage when the piping is changed and when the kettle jackets are cleaned.

DSW 175529

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Acceptable soultions are:

1. A completely "closed" system.
2. An alternate fluid.

The "WW" Building systems have been reviewed with Dr. W. G. Knapp and other involved personnel. Due to the demand pattern, it is impossible to change to a "closed" system. A substitute fluid for Aroclor #1248 is Therminol 66 (HB-40).

HB-40 has an operating temperature to up to 650°F (343°C) which is above the design temperature of the "WW" Building system, namely 300°C. With slight modifications HB-40 can be used. Since HB-40 will support combustion, it is recommended that the expansion tank be operated under an inert atmosphere of N_2 or CO_2. Stuffing box should be in good condition and piping tight to minimize leakage.

RECOMMENDATION

The only practical way to comply with the PCB loss limitations is to discontinue the use of Aroclor. It is recommended that HB-40 be used and that the systems be reviewed and modified as necessary to assure safe handling.

FUTURE WORK

Since this is a Research facility, it is suggested that Mr. Marchand arrange for the modifications and change of heating fluid. It is also requested that he advise A. E. Peterson when the transfer is complete.

/jcm

DSW 175530

From the desk of

R. F. SEIFERT

Bill Papageorge

Attached are copies of previous weekly reports pertaining to CEA 8042 for your info. Will send you a copy of future reports

Bob

DSW 175531

STLCOPCB4050052

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

TO:
R M KOONTZ
R E. HOWARD
W. B. PADGEORGE

CEA NO.	WEEK OF	REPORTED BY	DATE
8042	Nov 23, 1970	R. F. SEIFERT	Nov. 30, 1970

TITLE
Waste Disposal - W.G.K.

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. Held meeting with John Zink Co. present. plans re disposal of solid caustic waste in conjunction with CEA 2415 liquid incinerator on Monday Nov 23. See minutes of meeting.

2. Expedited delivery of solids waste mixture for Monday a.m. Tennessee for Test on Envaro-Chem equipment at St Charles scheduled for Tuesday Dec 1

3. Wednesday Nov 25 prepared material for test at plant site; issued on Friday Nov 27.

Night Work: Waters and assistant on test on Tuesday Dec 1. Miscellaneous solid caustic waste will be run in conjunction with principal test.

Following on John Zink Co recommendations

DSW 175532

CE-155 8-68 - 5M

STLCOPCB4050053

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

W. B PAPAGEORGE
R M KOUNTZ
R E HOWARD

CEA NO	WEEK OF	REPORTED BY	DATE
2042	NOV 16, 1970	R. F SEIFERT	NOV. 20, 1970

TITLE

WASTE DISPOSAL - IVGK

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. PHONED CLIFF CANTRELL OF JOHN ZINK CO TULSA FRIDAY NOV 13 AND TUES NOV 17 THEIR METHODS OF DISPOSING OF CONTAMINANTS MIXED WITH SOLIDS AND THE FEASIBILITY OF COMBINING SUCH SYSTEMS WITH THE LIQUID THERMAL OXIDIZER NOW ON ORDER ON P.O. 2415-9-0002. HIS PRELIMINARY OPINION:
   A. A ROTARY KILN TYPE PYROLYSIS UNIT IS INDICATED
   B. THE GAS FROM THE KILN COULD BE BURNED IN THE OXIDIZER WITH SOME RE-DESIGN OF THE PLENUM AND BURNERS.
   C. THE SIZE OF THE PACKED VENT STACK WOULD LIMIT OPERATION TO CONSECUTIVE BURNING OF WASTE STREAMS, NOT CONCURRENT.
   D. FORCED DRAFT BLOWER MUST BE STUDIED.

   A MEETING WILL BE HELD MON, NOV 21, 1:30 P. WITH MESSRS CANTRELL, WOLK, JOSLIN, KOUNTZ, AND PAPAGEORGE TO DISCUSS JOHN ZINK PROPOSALS.

2. MR ED SCHNEIDER OF LARK ENG. CO (TAYLOR & CO.) IS STUDYING APPLICABILITY OF THEIR EQUIPMENT

3. MR POLSAK OF BARTLETT-SNOW WILL CALL TO DISCUSS THEIR EQUIPMENT.

NEXT WEEK: PREPARE FOR GAMMA CHROM TEST ON DEC.

CE-135 8-68 - 5M

DSW 175533

STLCOPCB4050054

TO:

R E HOWARD

R M KOUNTZ

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

CEA NO.	WEEK OF	REPORTED BY	DATE
8042 2371 ET AL.	NOV 9, 1970	R. F. SEIFERT	NOV. 13, 197

TITLE

WASTE DISPOSAL WGK

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

CEA 8042 - WASTE DISPOSAL

MET WITH N. PAPAGEORGE, S. TUCKER - RESEARCH, S. VILLANI - ENVIROCHEM PLANT MANAGER TO SET UP TEST OF SOLIDS DISPOSAL AT ENVIROCHEM UNIT. TEST NOW SCHEDULED FOR DEC 2. ALSO MET WITH T. BIELS TO DISCUSS POTENTIAL SUPPLIERS OF SOLIDS DISPOSAL SYSTEMS.

VISITED THE ENVIROCHEM PLANT SITE AND INSPECTED EQUIPMENT.

CEA 2371 - NO WORK PENDING CORRECTION OF PROCESS PROBLEMS.

CEA 2018 - CLOSING FILES

CEA 2122 - STRAIGHTENING FILES.

NEXT WEEK:

WORK WITH PAPAGEORGE TO EXPEDITE PROCUREMENT OF SOLID TEST MATERIAL FOR DEC 2 TEST

CONTACT JOHN ZINK CO OF TULSA AND JOHN P TAILOR CO BETTENDORF IOWA RE DISPOSAL EQUIPMENT.

DSW 175534

COPY

WEEKLY PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

TO:
R.E. HONARD
A.M. KOUNTZ

CEA NO.	WEEK OF	REPORTED BY	DATE
2371	NOV 2, 1970	R.F. SEIFERT	NOV 6, 1970

TITLE
TRIBUTYL PHOSPHATE MODIFICATION, J.F.Q

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

CEA 2371 - REVIEWED AR ESTIMATE BASED ON REVISED SCOPE. RESEARCH HAS BEEN UNABLE TO REPRODUCE LABORATORY YIELDS IN THE PILOT PLANT WITHIN REASONABLE LIMITS. PENDING CORRECTION OF THIS DIFFICULTY, I AM POSTPONING FURTHER WORK ON THE PROJECT

CEA 2018 - CLOSING FILES TO CENTRAL FILES

CEA 2122 - STRAIGHTENING FILES.

CEA 8042 - WASTE DISPOSAL - ATTENDED MEETING ON WED NOV 4 TO DISCUSS DISPOSAL OF SOLID MATERIALS CONTAMINATED WITH CHLORINATED HYDROCARBONS (ELECTRICAL COMPONENTS, WOOD, SAWDUST, FILTER MEDIA, ETC.). TENTATIVE DATES FOR EXPERIMENT BY ENVIROCHEM ON THEIR EQUIPMENT NOV 20 OR DEC. CONTACTED ART PIER AND JEFF WALOBESER ON BACKGROUND MATERIAL.

DSW 175535

NEXT WEEK: S-UOY FEASIBILTY OF DISPOSAL METHODS ON CEA 8042. CONTINUE WITH FILES

STLCOPCB4050056

CENTRAL ENGINEERING DEPARTMENT

PROGRESS REPORT #4

CEA NO.	AR NO.	DATE
2415	--	November 23, 1970

PRODUCT: None

TITLE: Aroclor Waste Disposal

DIVISION	PLANT
Organic	W. G. Krummrich

DISTRIBUTION

CED SECTION MANAGER: R. M. Kountz — DIVISION REPRESENTATIVE: A. L. Rasmussen

CED PROJECT MANAGER: N. B. Wolk (2)

J. F. Adams - 231
O. R. Bailey - 245
J. M. Depp - 259
M. Dmytryszyn - 259
R. E. Doerr - 239
~~R. E. Emling~~
F. W. Enoch - 241
J. R. Fair - 267
R. W. Kaltenrieder (2) - 235
F. P. LaBelle - 259
R. E. Lenz - 259
Russell L. Miller - 259
C. L. Parish - 250
~~T. O. W. Shaw~~
A. B. Terry - 254
L. H. Todd - 254

W. J. Burkett - 245
P. F. Cunningham - 250
R. E. Howard - 266
R. H. Joslin - 251

General Offices

H. S. Bergen
T. L. Gossage
F. J. Holzapfel
A. J. Koenig
W. B. Papageorge
W. R. Richard
J. R. Savage

W. G. Krummrich Plant

G. L. Bratsch
B. W. Corley
D. W. Jackson

SCOPE

This project provides for facilities to thermally oxidize polychlorinated biphenyls to non-polluting combustion products. HCl gases will be scrubbed to the sewer. The project is being handled on a minimum cost basis with no overtime. Major new facilities include a 10M lb/yr liquid incinerator with auxiliaries.

DSW 175536

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CEA (AR) 2415

Data as of October 31, 1970

TITLE

Aroclor Waste Disposal

PRODUCT	LOCATION
None	W. G. Krummrich Plant

			Last Mo.	This Mo.
Appropriation M$, date	Pre-Approval ($100M)			
Current estimate M$	430	Process design % complete	50	100
Date of estimate	November 1970	Engineering % complete	5	30
Expended & comm. M$	127	Construction % complete	0	0
Spent this month M$	8	Expended & committed %	26	29.5
AR completion	May 1970	Engineering manpower	2	4
Current completion	May 1970	Construction manpower	0	0

KEY PROJECT DATES

	SCHEDULED	ACTUAL		SCHEDULED	ACTUAL
Project scope report	8/ 4/70	8/ 6/70	LP&EC review	--	7/23/70
Project scope meeting	8/12/70	8/12/70	AR data transmittal	8/ 5/70	8/28/70
Prelim. appropriation estimate	8/ 6/70	8/ 6/70	Project master schedule	8/28/70	9/ 1/70
Preliminary schedule	8/ 4/70	8/12/70	30% estimate	12/ 4/70	--
Project strategy meeting	8/14/70	8/14/70	70% estimate	*	--

*Not scheduled at this time.

All process design data has been issued "Approved."

All comments on the incinerator system have been returned to John Zink. We are expecting to receive final Zink drawings about December 1.

Dismantling of the phenol fusion area is underway to clear the jobsite.

Structural design is complete, and drafting is in progress.

Piping drafting is underway.

N. B. Wolk

EXPENSE

	APPROVED	EXPENDED & COMMITTED	ESTIMATED FINAL COST
Pre-project	$ 2,000	$1,904	$ 2,000
Project	39,000	0	39,000
CED Startup	3,000	0	3,000

DSW 175537

STLCOPCB4050058

Monsanto

FROM (NAME & LOCATION) R. L. Neary (4-8156) - General Offices (Zone 269)

DATE : November 30, 1970

SUBJECT : Biphenyl Column Capacity

REFERENCE : RLN to JRS 11/20/70

TO : J. R. Savage

cc: J. L. Corder - Anniston
V. R. Haupt - Anniston
R. E. Howard - 266
R. M. Kountz - 266
J. C. Landwehr - Anniston
W. B. Papageorge - WPAPA
W. R. Richard - WRICH

Attached is the graph of Biphenyl column capacity vs. reflux ratio which was inadvertently omitted from my previous letter.

R. L. Neary

/cc

Attachment

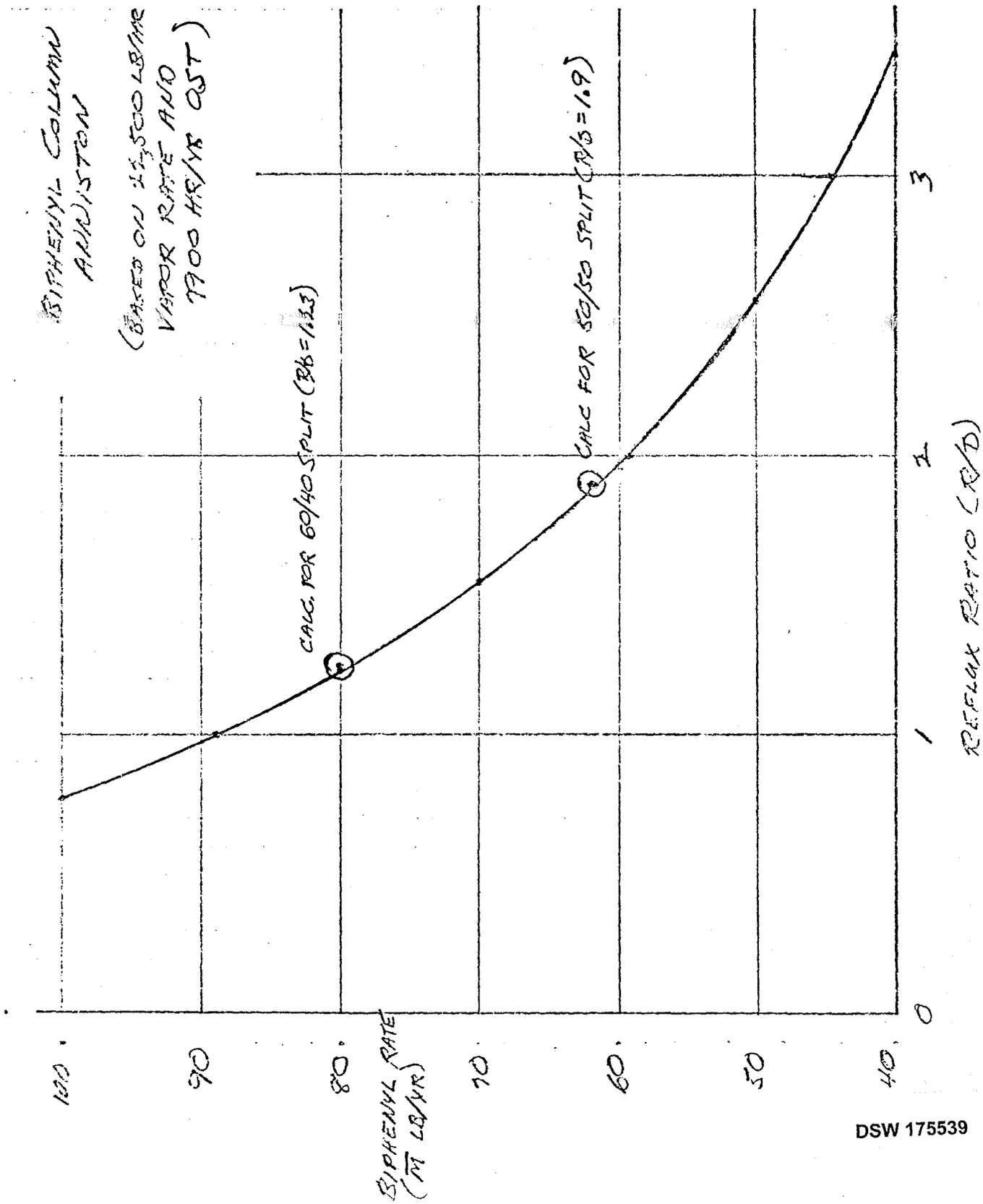
DSW 175538

STLCOPCB4050059

MONSANTO COMPANY
Central Engineering Department

Subject: BIPHENYL REFINING COLUMN CAPACITY — ANNISTON

Sheet ____ of ____
Project No. ____
Date 11-11-70 By RLN



DSW 175539

STLCOPCB4050060

W. B. PAPAGEORGE - ST. LOUIS
November 25, 1970

T. L. Gossage
G. R. Graham - NEW YORK

P. Benignus

The Plant Manager of Monsanto's Addyston, Ohio Plant, Reg Jackson has raised the question regarding what High Voltage Maintenance Company, Dayton, Ohio does with the used askarel it picks up from transformers such as the units in his plant.

Do we know?

W. B. PAPAGEORGE

DSW 175540

W. B. PAPAGEORGE - ST. LOUIS

November 23, 1970

H. S. Bergen
A. J. Koenig

1970 PCB EXPENDITURES

J. R. Savage

I plan to assemble all expenses and capital investment data relating to our Aroclor defense effort for 1970 and I need from you your estimate of the year-end figures for the Anniston and Krummrich Plants.

May I have your data by noon on December 1.

W. B. PAPAGEORGE

mb

DSW 175541

→ Bill Papageorge — C.O.

Orville N. Mueth, Krummrich

November 18, 1970

D. T. Mayer
R. G. Moody
R. McCutchan
E. Campbell

Leaking Inerteen 70/30 Drum

Mr. B. W. Corlew

This is to advise you that we received a complaint on 11/17 from the Wally Trucking Co., Jersey City, New Jersey that a drum of Inerteen 70/30 was found to be leaking upon arrival at their dock.

This drum was a part of a shipment of 45 drums of Inerteen 70/30 being sent to Research Cottrell, Boundbrook, New Jersey. The shipment originated at our plant on November 9th, UCL 709 053 and was sent by Associated Shippers.

I contacted the trucking firm at 9:20 a.m. and twice in the late afternoon. I advised them about proper handling methods to avoid personnel injury, and to avoid pollution of any sewers.

I requested them to air out the trailer, and after removing the drums, to inspect the leaking containers and inform me as to the nature of the leak. The drum has a split in the shape of an "X" approximately 3" in length in the bottom head between the cushion rings.

From the description given to me I would say at this time that the leak is a result of a metal defect which is the result of the steel manufacturing or of the press used to shape the head. A decision to file a claim against the drum manufacturer will be made upon receipt of the leaking drum.

I have requested the Wally Trucking Co. to put a "ducseal" or tape over the leak and return the drum to us. About one half of the drum contents leaked out. They used kerosene to wash the bed of the truck, followed with a hot water wash. The solution was collected and buried.

I will inspect the drum upon its arrival at the plant.

Orville N. Mueth

md

DSW 175542

STLCOPCB4050063

J. MASON - ST. LOUIS

NOVEMBER 25, 1970

W. B. PAPAGEORGE
D. B. HOSMER

PCB'S ANNISTON

J. R. ECK

Attached is the final article from the Anniston Star which I referred to in our telephone conversation last week.

In my opinion, this is a very fair article and is the result of some excellent staff work by Des Hosmer, Paul Hodges and the local plant people. They were able to contact the Managing Editor of the Star who agreed to hold up the article until we had the opportunity of taking the reporter on a tour of the plant facilities, emphasizing pollution control devices and analytical techniques being used.

It is interesting to note that Crockett is publicly coming out on our side and I understand that he is quite happy about the way we handled this story with the press.

I will keep you advised of any further developments.

John Mason

ms

Attachment

DSW 175543

Chemicals above acceptable amounts

By JUDY JOHNSON
Star Staff Writer

Food and Drug Administration analyses in May and June showed catfish from Choccolocco Creek with more than 50 times the acceptable level of a chemical substance and carp from Logan Martin Lake with almost eight times the acceptable amount of the same material.

Tests for chlorinated hydrocarbons polychlorinated biphenyls (PCBs) were run on a small quantity of fish, some of which were collected from commercial fishermen on Logan Martin Lake and at the mouth of Choccolocco Creek. Chlorinated hydrocarbons include DDT and its breakdown products. Dieldrin, another controversial pesticide, also was tested for.

THE FEDERAL Water Quality Administration and the FDA have set 5 parts per million as the acceptable tolerance level for either chlorinated hydrocarbons or PCBs in the flesh of fish.

Catfish samples from Choccolocco tested as high as 277 parts per million of PCBs, according to A. W. Granade of the Atlanta FDA laboratory. He said a carp sample from Logan Martin showed 39.6 parts per million.

The survey was run in preparation for a future closer FDA look at levels of various impurities in the flesh of fish in Alabama streams.

The question of whether PCBs are dangerous to human health is still in dispute.

PCBs ARE manufactured in the United States only at the Monsanto plant in Anniston and another in Illinois.

Gene L. Jessee, local Monsanto plant manager, said: "It's the main product." It is produced year-round, while some better-known products like parathion are not.

The fluid is chemically inert, inflammable and has excellent electrical properties. It has been manufactured for 35 years as a safety fluid for electrical equipment.

Granade said there is no doubt the level of PCBs in the samples exceed the administrative guidelines set by the FDA as to tolerance levels. And, he said, there are cases of pesticide residues which also exceed these levels.

JOE CROCKETT of the Alabama Water Improvement Board said no action is planned at present as a result of the findings. "I can't say that they would necessarily require action," Crockett said. "The value of PCB is something that in my opinion has yet to be decided. . ."

The whole matter of PCBs is still subject to study and investigation, Crockett said.

The manufacturing source of PCBs is the Monsanto plant at Anniston. Any other sources would be minor and accidental. PCBs are used in a closed dietrical systems such as transformers.

ACCORDING to Jessee, several steps have already been taken to halt any flow of PCBs in the effluent from the plant, and research is underway to determine the best methods of monitoring PCBs and halting the flow permanently.

"We've just scratched the surface on know-how about the product." Jessee said ". . .we wanted to develop qualitative and quanitative expertise. It has been a slow process because of the ability to identify the materials and the lack of sophisticated analysis equipment. . ."

In the past several months, Jessee said, Monsanto has developed the methodology, trained the people and obtained the equipment needed to start some analysis work "to monitor ourselves." There are now seven technical people working full-time on the problem, he said.

". . .we have done those things we found important first," Jessee said. "We made sure no major quantities of PCBs leave the plant. We have spent $300,000 in the last six months to do this. . ."

JESSEE emphasizes that Monsanto's work of defining the problem and coming up with the methods of tackling it is "in its infancy."

The plant manager said Monsanto is aware of the recent FDA test results, although he is not certain of their significance. Monsanto's own lab, he said, is having problems getting consistent results in the measurement of PCB levels. "I don't know whether these (FDA) results are repetitive results," he said.

In any case, he said, "I don't see cause for worry from the public health standpoint. I do see that as a responsible company we have an obligation to minimize the possibility of gross quantities of the materials leaving the plant. We're dealing with PCB trying to define and work out what kinds of equipment it takes to reduce that to no measurable amounts."

ALTHOUGH the equipment devised is designed to keep any gross amounts of material from leaving the plant by accident, large spills of the material have apparently never occurred. PCBs that get into Choccolocco Creek don't get there as a direct result of the PCB manufacturing process. The PCB manufacturing process is an anhydrous (carried on without the presence of water) process.

So how do PCBs get into Monsanto's effluent? "Through things like washing the floor down," Jessee explains. "The vacuum system uses steam and that could get some in it. . .it's very incidental to the process to have any water involved."

The effluent carrying the escaped PCBs doesn't go with some of Monsanto's other effluent through the City of Anniston's sewage system. Instaad, if flows directly into Snow Creek, and from there into Choccolocco Creek.

SO FAR, Monsanto's attempts to halt any flow of PCBs into the creek have taken several forms: "The first thing we did was to install a big catch basin, which prevents major surges of material from leaving," Jessee said.

PCBs are heavier than water, so most such material will sink to the bottom of the catch basin, where it is picked up and recycled into the manufacturing process again. Some of the PCBs remain on the surface of the water, held there by surface tension. These are skimmed off the surface.

"Then we went in the front yard of the plant and put in what we thought was a crude approach, but later found is the best thing around — a massive filter of limestone rock and some graded coke and some concrete dams built at intervals through the thing, which causes all the effluent from the plant to go through this thing. The PCBs adhere to the surface of the limestone and sand and other materials.

MONSANTO has installed a laboratory, which Jessee describes as being "as clean as a hospital scrubroom" with necessary equipment to measure PCBs in part per billion, if necessary. The techniques for the measurements are not yet perfect, though, Jessee said.

Monsanto is still casting around for a final approach to the poblem. Four large cylinders of activated charcoal now stand next to the catch basin, filtering some of the waters leaving the basin as "clear" water. PCBs are being removed from that water. According to Joe Landwehr, an engineer at Monsanto, the results of that experiment are excellent, and the activated charcoal may prove to be the answer to the problem. But there are problems still to be worked out before it is chosen as the answer.

(Continued - Over)

DSW 175544

STLCOPCB4050065

The Anniston Star
Sunday, November 22, 1970

PCB problem unfolded as environment hazard

PCBs first came to public attention in a brief flurry of excitement this summer when Rep. William F. Ryan, D-N.Y., held a press conference to point out the possible problem of PCBs in the environment.

Although the material has been manufactured for years, it was not until recently — in the last 18 months — that it was recognized as a potential environmental hazard.

The problem: like DDT, PCBs do not break down. And also like DDT, they build up in the food chain, with animals at the top of a food chain carrying the highest concentration of the material in their flesh — a much highr concentration than is measurable in the environment.

BUT WHAT is the effect of PCBs? "More study needs to be developed," said Joe Crockett of the Alabama Water Improvement Board. "Nobody knows. There has been no evidence — it's like DDT — people have eaten the stuff and still do all right as opposed to organic phosphate compounds which are more toxic. . .I can't get alarmed about the PCB question. It's just something you have to recognize and get in behind it and control it. There's not enough evidence to be alarmed. . ."

"People are trying to find out what effect PCBs have on living organisms," said an official at Monsanto. "We can't find any documented evidence at this point. People are looking at it, but they can't find any documented results of effects from environmental contact."

But Ryan, in his press conference this summer, was quoted in the St. Louis Globe-Democrat as claiming that the substance is said to be threatening the reproduction of birds, and is also suspected of being harmful to humans and animals.

RYAN claimed in that press conference that PCB, inhaled, can cause nausea, rapid breathing, loss of weight and a lowered red blood cell count. More serious results are the deterioration of the kidneys, jaundice and atrophy of the liver, he claimed.

According to Crockett, PCBs weren't identified in the natural environment until three or four years ago. Then, they showed up in gas chromatograph analyses as an unidentified blip.

"Monsanto was the one that told us about the PCBs," Crockett said. "They had been very concerned about it. They're trying to control any loss of PCBs at their Anniston works. We are satisfied they are doing a very effective job. I think you could compare it to the response we have had on the containing of mercury, which in my opinion has been excellent."

DSW 175545

NOV 17 1970

INTERIM ~~WEEKLY~~ PROJECT REPORT

CENTRAL ENGINEERING DEPARTMENT
PD & PM

TO:

R. M. Kountz/Correspondence
~~R. E. Howard~~

CEA NO.	WEEK OF	REPORTED BY	DATE
8042	Nov. 16, 1970	R. F. Seifert	Nov. 17, 1970

TITLE
Waste Disposal - WGK

RESULTS OF WEEK'S WORK, OUTSTANDING PROBLEMS AND PLAN FOR NEXT WEEK.

1. Phoned Cliff Cantrell of John Zink Co., Tulsa, Friday, November 13, and today re their methods of disposing of contaminants mixed with solids and the feasibility of combining such systems with the liquid thermal oxidizer now on order on P.O. 2415-9-0002. His preliminary opinion is:

   a. A rotary kiln type pyrolysis unit is indicated.

   b. The gas from the kiln could be burned in the oxidizer with some redesign of the plenum and burners.

   c. The size of the packed vent stack would limit operation to consecutive burning of waste streams, not concurrent. (I'll check on-stream time of liquid disposal.)

   d. Blower design must be studied.

   He will call on me Monday, November 23. I am checking layout for available space.

2. Mr. Ed Schneider of Lark Eng. Co. (Tailor & Co.) is studying applicability of their equipment.

3. Mr. Polsak of Bartlett-Snow will call to discuss their equipment.

DSW 175546

CE-135 8-68 - 5M

STLCOPCB4050067

Monsanto

FROM (NAME & LOCATION) J. L. Brown - Anniston, Alabama

DATE : November 15, 1970

SUBJECT : MID-MONTH REPORT

REFERENCE :

TO : J. C. Landwehr

CC:
J. T. Bell
J. W. Baker - So. 2nd St.
J. L. Corder
P. O. DeGarmo - So. 2nd St.
W. B. Dunlap
M. W. Farrar - So. 2nd St.
V. R. Haupt
G. L. Jessee
R. N. Jones
L. C. Lahman
A. G. McCarty
W. B. Papageorge - G. O.
W. R. Richard - G. O.
J. R. Savage - G. O.
B. O. Severson
W. E. Voss

Attached are summaries from PR&D Chemists covering project progress from October 15 to present.

Comments and questions are welcomed.

J. L. Brown

jw
Attachment

DSW 175547

STLCOPCB4050068

MID-MONTH REPORT

PROJECT TITLE: Polyphenyl Pilot Studies
PERIOD ENDING: November 16, 1970
PR&D PERSONNEL: J. L. Brown, D. F. Pittman

The mid-reactor injection study outlined in PR&D Work Plan V of 9/18/70 is complete. A summary of the results is included. Table I includes a factoral chart of the Cumene, Isopropyl alcohol, and Acetone studies which involved mid-reactor injections in combination with the conventional feed mixing of the promoter. Table II includes a summary of the results of all the 118 runs which have been made to date.

The results from the promoter in the feed and promoter injected cannot be compared to each other. The promoter in the feed was actually weighed while the injected promoter was pumped. In actuality 0.1% promoter in the feed was greater than 0.1% promoter that was injected even though both are identified by the same percentage. Experimental error as determined from duplicate and replicate runs was 0.35% over entire process including analysis.

A summary of the results is as follows:

1. Acetone was the best promoter studied when mixed with the Benzene feed in the conventional manner.

2. Conversion can be increased by approximately 20% by increasing the acetone from 0.1% to 0.4%.

3. Conversion from Cumene peaks at approximately 0.1% local concentration and decreases as Cumene concentration increases.

4. Cumene (0.1%) in feed plus 0.1% Cumene injected gives conversion approximately equal to 0.1% acetone in the feed.

5. Cumene injected at mid-reactor increased conversion independently of promoter mixed in the feed.

6. Conversion can be increased by approximately 8-10% by injecting Cumene at mid-reactor into the Benzene feed containing 0.1% acetone.

Future Action:

1. Study effects of mid-reactor injection of Cumene/Acetone in Benzene containing 10% Biphenyl.

2. Construct #3 tube to contain at least 2 injection points to further define Cumene injections.

J. L. Brown

D. F. Pittman

DSW 175548

STLCOPCB4050069

POLYPHENYL PILOT STUDIES

TABLE I

MID REACTOR & FEED ADDITION

MIXED PROMOTERS

Promoter Feed →		Acetone			Cumene			IsoPropyl Alc.		
		0	.1	.2	0	.1	.2	0	.1	.2
Promoter Injected ↓										
Acetone	0	16.1	21.3	23.2	16.1	19.2	18.2	16.1		22.0
	.1		22.4	24.2		21.2			21.5	
	.2	20.5		25.9	20.5		21.4	20.5		23.6
Cumene	0	16.1	21.2	23.4	16.1	19.2	18.2	16.1		22.0
	.1					20.8				
	.2	18.7	22.9		18.7		21.3	18.7		23.20
IPA	0	16.1	21.2	23.4	16.1	19.2	18.2	16.1	19.7	22.0
	.1		21.1	24.6						
	.2	18.3		25.5	18.3		20.0	18.3		23.0

DSW 175549

STLCOPCB4050070

TABLE II

Promoter - Conc.	Temp.	BiØ	O	M	P	Ø4	Total
Benzene Only	720°C	9.44	.11	.49	.23	.06	10.31
Benzene Only	740°C	13.58	.24	1.23	.58	.36	15.99
Benzene Only	750°C	13.82	.25	1.19	.55	.33	16.14
0.1% Acetone *	720°C	11.53	.16	.80	.38	.14	13.01
0.1% Acetone *	740°C	15.93	.33	1.65	.77	.66	19.34
0.1% Acetone *	750°C	17.73	.35	1.86	.89	.49	21.32
0.2% Acetone **	750°C	16.94	.34	1.82	.84	.59	20.53
0.2% Acetone *	740°C	18.26	.40	1.91	.90	.68	22.15
0.2% Acetone *	750°C	18.98	.41	2.29	1.03	.70	23.41
0.3% Acetone *	740°C	18.63	.42	2.24	1.00	.66	22.95
0.4% Acetone *	750°C	19.30	.47	2.63	1.31	.84	25.10
0.1% Ac * 0.1% Ac **	750°C	18.35	.40	2.17	.99	.52	22.43
0.2% Ac * 0.1% Ac **	750°C	19.34	.44	2.48	1.13	.80	24.19
0.2% Ac * 0.2% Ac **	750°C	20.21	.48	2.83	1.26	1.13	25.91
0.1% Ac * 0.1% IPA **	750°C	17.39	.37	1.93	.87	.50	21.06
0.1% Ac * 0.2% Cumene **	750°C	18.45	.44	2.28	.95	.78	22.90
0.2% Ac * 0.1% IPA **	750°C	19.70	.44	2.48	1.11	.88	24.61
0.2% Ac * 0.2% IPA **	750°C	20.23	.46	2.65	1.21	.98	25.53
0.2% Acetone **	750°C	16.94	.34	1.82	.84	.59	20.53
0.2% Cumene **	750°C	15.57	.30	1.56	.70	.45	18.72
0.2% IPA **	750°C	15.32	.33	1.52	.71	.38	18.26
0.1% Cumene *	720°C	10.63	.15	.67	.31	.08	11.81
0.1% Cumene *	740°C	14.50	.26	1.21	.57	.26	16.80
0.1% Cumene *	750°C	16.31	.29	1.50	.72	.37	19.20
0.2% Cumene *	740°C	15.02	.27	1.40	.66	.24	17.64
0.2% Cumene *	750°C	15.46	.27	1.49	.70	.25	18.17

* Promoter in feed

** Mid-Reactor injection

Ac - Acetone

IPA - Isopropyl alc.

DSW 175550

TABLE II (Continue

Promoter - Conc.	Temp.	Biø	O	M	P	ø4	Total
0.4% Cumene *	740°C	15.52	.29	1.63	.78	.42	18.64
0.6% Cumene *	740°C	15.42	.28	1.53	.69	.50	18.42
6.0% Cumene *	740°C	14.55	.20	1.42	.68	.65	17.50
0.1% Cumene * 0.1% Cumene **	750°C	17.11	.35	1.89	.91	.50	20.76
0.1% Cumene * 0.1% Ac **	750°C	17.41	.36	1.84	.83	.72	21.16
0.18% Cumene * 0.2% Ac **	750°C	17.55	.37	1.92	.91	.66	21.41
0.18% Cumene * 0.2% Cumene **	750°C	17.40	.37	1.95	.91	.69	21.32
0.18% Cumene * 0.2% IPA **	750°C	16.73	.25	1.69	.79	.57	20.03
(0.1% Ac + 0.1% Cumene)*	750°C	17.28	.36	2.02	.96	.48	21.10
(0.1% Ac + 0.1% Cumene)* 0.1% Cumene **	750°C	18.08	.39	2.16	1.04	.60	22.27
0.1% IPA *	750°C	17.81	.34	1.78	.84	.52	21.29
0.2% IPA *	750°C	17.94	.39	2.01	.95	.58	21.87
0.1% IPA * 0.1% Ac **	750°C	17.77	.35	1.93	.88	.56	21.49
0.1% IPA * 0.2% Ac **	750°C	19.12	.46	2.37	1.13	.86	23.94
0.2% IPA * 0.2% Ac **	750°C	18.86	.44	2.43	1.13	.91	23.77
0.2% IPA * 0.2% IPA **	750°C	18.53	.42	2.24	1.05	.77	23.01
0.2% IPA * 0.2% Cumene **	750°C	18.70	.41	2.20	1.05	.84	23.20
0.1% Toluene *	740°C	14.19	.32	1.25	.65	.41	16.82
0.2% Toluene *	750°C	13.62	.21	1.05	.49	.45	15.82
1.0% Toluene *	750°C	10.15	.11	.60	.27	NDA	11.13
0.2% Ethylbenzene *	750°C	15.95	.30	1.64	.78	.25	18.92
0.4% Ethylbenzene *	750°C	17.01	.32	1.84	.85	.33	19.98
0.2% Cyclohexane *	750°C	13.46	.20	1.06	.46	.22	15.40
0.2% Trimethylpentane *	750°C	14.44	.26	1.29	.60	.33	16.92
0.1% Nitrobenzene *	720°C	8.83	.10	.46	.22	.06	9.67
0.5% Nitrobenzene *	740°C	13.06	.20	1.00	.45	.20	14.85
Methane	750°C	13.61	.21	1.09	.40	.20	15.51
Propane	750°C	14.16	.44	1.24	.61	.20	16.65
Isobutane	750°C	15.72	.23	1.35	.61	.77	18.68

* Promoter in feed

** Mid-Reactor injection

Ac - Acetone

IPA - Iso propyl alc.

DSW 175551

TABLE II (Continued)

Promoter - Conc.	Temp.	BiØ	O	M	P	$Ø_4$	Total
0.2% Nitrobenzene	750°C	10.83	.15	.81	.36	.15	12.36
0.2% Amyl Acetate *	750°C	11.69	.17	.77	.34	.14	13.11
0.2% Cyclohexane *	750°C	11.43	.18	.93	.41	.19	13.14
0.2% Phenol *	750°C	11.76	.17	.87	.42	.17	13.39
0.2% Azobenzene *	750°C	13.19	.20	1.02	.48	.18	15.07
0.2% Phenyl Benzoate *	750°C	13.32	.20	1.06	.50	.20	15.28
0.2% Benzil *	750°C	13.56	.22	1.05	.46	.19	15.48
0.2% 3-Pentanone *	750°C	13.39	.23	1.12	.52	.23	15.49
0.2% Benzaldehyde *	750°C	13.59	.20	1.07	.50	.24	15.60
0.2% Ethylbenzene *	750°C	13.25	.24	1.25	.53	.35	15.62
0.2% t-Butyl alcohol *	750°C	13.57	.24	1.16	.53	.20	15.70
0.2% Cumene *	750°C	14.19	.23	1.22	.58	.14	16.36
0.2% n-Propyl alcohol *	750°C	13.93	.26	1.31	.61	.33	16.44
0.1% Acetone *	750°C	14.28	.25	1.23	.55	.16	16.47
0.2% Trimethylpentane *	750°C	14.17	.26	1.26	.59	.28	16.55
0.2% Triethylamine *	750°C	14.20	.26	1.40	.64	.32	16.82
0.2% 2-Pentanone *	750°C	14.40	.26	1.28	.57	.33	16.84
0.4% Cumene *	750°C	14.80	.23	1.34	.60	.15	17.12
0.4% Ethylbenzene *	750°C	14.36	.28	1.39	.66	.44	17.13
0.2% n-Butyl alcohol *	750°C	14.89	.27	1.34	.62	.29	17.41
0.2% Phenyl Ether *	750°C	15.64	.28	1.52	.69	.36	18.49
0.2% Benzophenone *	750°C	15.42	.31	1.60	.70	.51	18.54
0.2% Acetophenone *	750°C	15.48	.29	1.66	.78	.46	18.67
0.2% Isopropyl alcohol *	750°C	16.75	.34	1.77	.76	.44	20.06
0.2% 2-Butanone *	750°C	16.76	.33	1.84	.82	.43	20.18
0.3% Acetone *	750°C	17.55	.36	1.96	.94	.50	21.31
0.4% Acetone *	750°C	18.21	.39	2.06	.98	.52	22.16

* Pre-Reactor Injection

DSW 175552

MID-MONTH REPORT

PROJECT TITLE: Methyl Intermediate Yield Improvment
PERIOD ENDING: November 15, 1970
CHEMIST: G. L. Arnett

PR&D work outlined in work plan issued October 15, 1970 is proceeding as scheduled.

Direct water quenching of methyl chlorinated thio acid (chlorination of 116%) was not successful due to exothermic reaction with water and losses of intermediate due to hydrolysis. Indirect quenching was partically effective but would require extensive cooling devices on a plant scale.

Seeding the chlorination mass with sulfur crystals in an effort to control the crystallization of the sulfur during the chlorine addition was also unsuccessful. The seeding process was a failure due to the sulfur being chlorinated to form a sulfur chain that would not crystallize.

The recycle of organic methyl pct still residue obtained from 96% chlorination level thio acid data, indicates that this procedure could be of significant value in gaining pct yields.

A sample of plant residue (obtained from a 96% chlorination) was filtered to remove crystallized sulfur, and then chlorinated to obtain maximum pct yield. See attached Table #1.

The intermediate level peaked out at approximately 51% and after the addition of 60 grams chlorine, an orange liquid layer formed in the bottom of the chlorination mass. A sample of this material was sent to Galbraith Laboratories for analysis and was found to contain the following: S = 70.78%, C = 0.82%, H = 0.17%, p = 0.69%, cl.= 15.16.

Methyl thio acid was blended with 10, 20, and 30% by weight organic residue and chlorinated to approximately 100% chlorination. This chlorinated mass was found to have D.T.A.'s that were typical of normal 100% chlorinated thio acid. The isomers "C" and "G" were also normal for this chlorination level.

A recycle study on batches containing 30% filtered organic residue was continued for a total of 5 batches with residue from each batch being recycled to the next succeeding batch. Each batch was chlorinated to approximately 100%. See attached Table II for results. Isomers "C" & "G" were normal and all distillations produced 96%+ assay material.

Work will continue in the area of recycling residue. However, additional work is being carried out with sulfur monochloride using a two stage chlorination, i.e., chlorinating to 96% with chlorine and then chlorinated to 116% level with sulfur monochloride.

STLCOPCB4050074

MID-MONTH REPORT

Project Title: Aroclor 5468

A sample of Aroclor 5468 was produced for L. W. Crovatt at the Pensacola plant. This higher chlorinated terphenyl material is to be evaluated as a possible use as a flame retardant in a new flame-retardant nylon resin.

A sample of plant Aroclor 5060 (S.p. 110) was used as starting material. Using a combination of Al and Fe turnings as a catalyst the mass was chlorinated @ 200-280°C to a Soft Point of 163°C. The chlorinated mass was distilled using 3 mm vacuum to a pot temperature of 420°C. The distilled material had a Soft Point of 143°C with a total chlorine content of 68.3%.

A sample of distilled and undistilled material was forwarded to Pensacola for evaluation.

G. L. Arnett

DSW 175554

TABLE I

Chlorination of 300 gram filtered residue

grams chlorine charged	meq. Br.	% Chlorination Level	% Intermediate
0.0	67.2	95.2	16
40.0	55.5	106.9	42
60.0	49.4	112.7	51
80.0	42.8	Approx. 120	50

TABLE II

Chlorination of 30% filtered residue blended with methyl thio acid

Batch #	1	2	3	4	5
Cl_2 level %	101.0	102.8	103.1	107.1	103.8
Int. (by analysis) %	57.4	55.3	55.7	58.4	53.5
D.T.A. @ 80°C	NDA	-	-	-	NDA
@100°C	NDA	-	-	-	NDA
Distillation yield %	54.2	63.8	59.3	57.2	55.5
Organic contained in residue %	69.8	90.6	67.0	65.2	66.5

DSW 175555

STLCOPCB4050076

MID-MONTH REPORT

PROJECT TITLE: Aroclor Pollution Study
DEPARTMENT: 916.07
PERSONNEL: Ishmeal Ransaw & Andy Nelson
REPORTED BY: Ishmeal Ransaw
DATE: 11/19/70

Carbon Adsorption Study

The pilot unit (series of four five-inch diameter columns), that was put on stream 10/2, continues to operate with minimum difficulties. The initial flow of 2 gpm/ft^2 was increased to 4 gpm/ft^2 on 10/28. Effluent quality, at the present flow, is < 10 ppb Aroclor for influent concentrations in the range 100-2,000 ppb. The present plan is to increase the flow to 6 gpm/ft^2 by 11/25.

Filtration Studies

Filter studies utilizing sand as a filter media were conducted in an effort to remove the aroclor containing solids from the neutralization pit. A very clear effluent was obtained; however, the four-inch diameter filter plugged after three days of operation at average flow of 100 cc/min. The analyses of effluent for Aroclor has not been completed. The present plan is to use Dicalite 211 as a filtering aid.

Solids-Aroclor by Flocculation and Flotation

Betz Laboratories plans to have the flocculation jar tests completed on the plant effluent by 11/30. There has been no feed back from Denver Equipment Company on the study evaluating the removal of Aroclor containing solids by froth flotation.

Ishmeal Ransaw

Ishmeal Ransaw

DSW 175556

STLCOPCB4050077

From the desk of
W. B. PAPAGEORGE

12-9-75

J Wilson → Bill Papageorge

Purpose of investigation
is to record surface
similar incidents and to
help in the selection of
such insights.

good ☆ D

DSW 175557

STLCOPCB4050078

W. G. Krummrich Plant

MONSANTO COMPANY

November 13, 1970

cc: Messrs.
B. W. Corlew
B. R. Williams
D. J. O'Toole
W. B. Papageorge - G.O.
J. R. Savage - G.O.
P. B. Hodges - G.O.

TO: Mr. G. L. Bratsch

MAJOR SPILL INVESTIGATION No. S2-2-70

Product:	Therminol
Date of Incident:	October 23, 1970
Location:	Rip Track
Nature of Incident:	Loss of a heel of Therminol from a tank trailer to sewer
Cause of Incident:	Operating error. The heel of material was being heated up to facilitate discharge to a hold tank. The trailer was imperfectly vented and the discharge valve was open. Expansion of air discharged the material.
Secondary Cause:	Additional material was ordered to ensure that there was sufficient material to rinse and fill the Therminol unit. However, there was insufficient follow up to ensure that the excess material was either returned or used to complete another shipment.
Consequence:	The loss of material to the sewer presents a serious pollution problem with prolonged effects which are difficult to follow or to control. Value of the material loss was $550 (manufacturing cost).

INVESTIGATING COMMITTEE:
T. Carrico
M. Foresman
C. King
W. Parker
C. Buckley, Chairman

DSW 175558

pd

SUMMARY OF THE INVESTIGATION:

Aroclor is a valuable product which is important to the future of the Monsanto Company and especially so to the W. G. Krummrich Plant. However, its continued production is dependent on the success of our control measures to prevent loss to the environment. This is because it is unaffected by biological action and can become concentrated in the "food chain" until irreversible changes in the ecology occur.

Thus, in addition to the installation of control equipment, we must train people to avoid operating errors which can cause such a loss and we must also maintain sufficient control of the material at all times that the chance of error is minimized. It is evident from the sequence of events leading up to this incident that our control falls short of our needs. Had the material been another product than Aroclor, the loss could have passed unnoticed. In this case, the personnel involved were well aware of the serious nature of an Aroclor spill and immediately informed all the key personnel needed to deal with the situation.

SEQUENCE OF EVENTS:

10/13/70: Department 239 emptied its Therminol unit into Rogers trailer.

10/13/70: Department 239 ordered approximately 2000 gallons Aroclor 1248 from Department 246.

10/16/70: Department 239 Therminol unit was flushed with kerosene. Kerosene rinse pumped to Rogers trailer.

10/15/70 8:30 AM: Trailer #432 loaded with 1976 gallons Aroclor 1248.

9:16 AM: Trailer weighed - 49,440 lbs. gross.

10/15/70: at Department 239. 500 gallon 1248 from trailer #432 used to flush remaining kerosene from the Therminol unit - pumped to Rogers trailer. 1000 gallon 1248 from trailer #432 used to fill the Therminol system. Trailer #432 was then released to distribution services with a telephone message that it contained a heel of material. Trailer #432 was weighed again - however, this weight gave no indication of the amount of heel left in it and no special arrangements were made to dispose of the heel.

The Rogers trailer was unloaded to the waste Aroclor storage tanks to be held for incineration.

DSW 175559

SEQUENCE OF EVENTS (continued)

10/23/70: Trailer #432 was sent to the Rip Track for cleaning. Rip Track personnel knew it had contained Aroclor but had no other information on the size or nature of the heel left in it. On inspection, it appeared to be black tarry material but was, in fact, colorless Aroclor 1248. The cover of the vessel was closed, but not fastened, in order to minimize fuming. This was sufficiently air tight, however, to cause the spill when the vessel was heated.

DISCUSSION:

This incident highlights three principles of process control which are essential to efficient operation.

1. A complete check of the equipment must be made before starting an operation.

2. An operation is incomplete until all material has been acounted for and the equipment restored to the starting condition.

3. Material in vessels must be positively identified before it is used in any operation.

SPECIFIC RECOMMENDATIONS:

1. Rip Track operators should be cautioned about the need to check the discharge valves on all tank vehicles for correct position according to the operation to be performed and on the need for adequate venting during heating.

2. Warehousing and Shipping and the Accounting Departments should review the handling of weight tickets with the objective of ensuring correct transfer weights and a record of heels remaining in vehicles.

3. Warehousing and Shipping should decide what to do when a vehicle is known to contain a large heel.

4. Production Departments 239 and 246 should devise a procedure which could have been followed to dispose of the heel in the trailer with minimum financial loss as well as no loss to the environment.

5. Department 239 should review the Therminol change out procedure with the objective of cleaning the system at minimum cost and without leaving a heel in the trailer.

Status reports are due January 1, 1971, and monthly thereafter until complete.

DSW 175560

STLCOPCB4050081

GENERAL RECOMMENDATIONS:

1. All groups review the truck loading and unloading procedures re-emphasizing the precautions to be taken and indicate if revisions are needed in light of the above incident.

2. The need to account for all containers of Aroclor or Aroclor based material (hydraulic fluids as well as Therminol) should be explained to all personnel.

Status reports are due January 1, 1971, and monthly thereafter until complete.

DSW 175561

Bill Papageorge

Some late WGK info

PCB Analysis Summary

Steam Jet Condensate 2607 ppb
(Previously was analyzed at None)

Scrubber Water since demister installation
(Baseline had shown about 20 #/day with trap working)

10/20 (about time of start up) — 2.17 #/day

10/23 — 0.14 #/day

10/27 — 0.27 #/day

10/28 — 0.51 #/day

Scrubber Stack Analysis since demister installation with reduced flow ≈ 100 cfm.

Analysis showed in range of @ 5×10^{-4} #/day

Analysis of fume removal stack shows 0.05 #/day while drumming. Based on blower of ≈ 1000 cfm

DSW 175562

STLCOPCB4050083

Monsanto

FROM (NAME & LOCATION) R. F. Seifert (4-6432) - General Offices (Zone 269)

DATE November 12, 1970 cc W. B. Papageorge

SUBJECT Minutes of Meetings on
November 11, 1970

REFERENCE CEA 8042 - Waste Disposal - WGK
Disposal of Solid Materials Containing PCB

TO : R. M. Kountz

A meeting in B-274 on Wednesday, November 11, was attended by W. B. Papageorge; Scott Tucker - Organic Research; Sal Villani - Envirochem Plant Manager; and R. F. Seifert.

The purpose was to set the objectives and conditions for a qualitative test of typical solid materials, i.e., wooden parts, capacitors, clay, sand, and sawdust impregnated with PCB. The end result should be innocuous gases and clean solids, both free of PCB.

The test date will be Tuesday, December 15, using the Envirochem pyrolysis unit. Bill Papageorge will arrange for 2 to 3M pounds of assorted solids in drums to be delivered to the test site. Prior to the test, the material will be ground in the mill located ahead of the kiln, collected, and stored.

The test will be of four hours' duration, during which about five tons ~~drums~~ of municipal waste will be processed. Test materials will be added to the waste in bucket-sized batches through a port in the conveyor feeding the kiln. Samples for gas chromatograph tests will be taken by Scott Tucker at three points in the system: the exit gases from the kiln; from the afterburner; and from the scrubber. Kiln temperatures will be maintained at 1200°F and the afterburner at 2000 to 2100°F.

Solid waste will be retrieved from the quencher and will be examined for residual PCB.

Papageorge will arrange for a man from Organic Division to assist in the test. Tucker and I will also assist.

A second meeting was held in the E Building with Ted Bielski and Sal Villani at 10 a.m. the same day to see if Envirochem could give some guidance on contaminated solids disposal. Information required for any test, as we expected, is data on quantities, types, and rate of flow of materials to be processed, whether we expect to run intermittently or continuously, etc. (Papageorge is developing the information.)

DSW 175563

STLCOPCB4050084

Bielski pointed out that the Envirochem pyrolitic process is different from the new high-temperature incineration process by the Zurn Industries and General Electric. (I plan to look into these.)

Although his group is very busy making a sale on commercial units, Bielski believed that they could and should take on the process design for our problem. If their pyrolytic process proves applicable, their test unit would probably be available to us.

George Logan of CED was mentioned as having worked on a related problem at Port Plastics.

Following the meeting I went out and inspected the installation on St. Charles Rock Road with Sal Villani. While it was not in operation, my impression is that the installation is in fairly good shape and could prove useful if found applicable to our problem.

R. F. Seifert

R. F. Seifert

eb

J. R. Savage - General Office

November 11, 1970

Messrs.
W.B. Papageorge
J.C. Landwehr Anniston
H.C. Carder
Billie Taylor
P.B. Hodges
F.J. Holzapfel

Mr. John Mason
General Office

Anniston Project 3690 "Install Fume Collection and Scrubbing Systems For the HCl Loading Docks and Storage Tanks" ($35,000 Capital) has urgency from the PCB standpoint, in that it will reduce water flows through the Aroclor sewer system. If completed before Niran starts up early next year with a corresponding rise in water flows, a rise in PCB losses will be averted. This has gained urgency because we now report daily loss figures to the Alabama Water Improvement Commission.

This is a General Chemicals Group project. While they are in general agreement with the proposed project because of improvements in water cost, fume conditions and maintenance expense, these benefits would not justify early approval in the present capital crunch. They have, therefore, left it to the Fluids Group to determine whether the PCB aspect of the project makes it urgent.

Confirming our discussion, we will proceed with the project.

J. R. Savage

md

DSW 175565

Monsanto

Monsanto Company
Anniston, Alabama 36201
Phone: (205) 236-6381

November 9, 1970

Mr. J. L. Crockett, Jr.
Technical Staff Director
Water Improvement Commission
State Office Building
Montgomery, Alabama 36101

Dear Mr. Crockett:

The Progress Report on Abatement of Polychlorinated Biphenyl Discharge to Snow Creek is attached. This is a compendium of progress reports, and research work plans, planning schedules and estimates and monthly highlights which document actions and results during the past four months.

At the present time our discharge is in the range of 1-5 lb./day total mono and polychlorinated biphenyl homologs. Many of these are degradable by biological and metabolic action if introduced into the environment. We are in the process of developing more sophisticated analytical and computational techniques to report to you analyses of our discharge of the same homologs which are reported in biological samples. This level will be considerably lower than the above range. However, our abatement and waste treatment work is directed toward processes which will effect removal of a broad range of homologs whether or not they are degradable.

Yours very truly,

J. C. Landwehr
Technical Services Superintendent

jw
Attachment

INTRODUCTION

DSW 175566

STLCOPCB4050087

INTRODUCTION

DSW 175567

STLCOPCB4050088

INTRODUCTION

MANUFACTURE & WASTE ABATEMENT IN AROCLOR PRODUCTION

I. Chlorination:

The first step in the manufacture of Aroclor compounds is the chlorination of biphenyl to the desired level (i.e. 1242 - 42% Cl_2, 1254 - 54% Cl_2 etc.).

Biphenyl is charged into a cylindrical tower (chlorinator) and chlorine is fed to the reaction mass until the desired chlorine content is reached. During this chlorination step, HCl gas is evolved and passes through a Brink mist-eliminator to knock out initial entrainment before cooling in which Aroclor vapors are condensed and removed in a collection tank for recharging to the chlorinators. As the HCl gas exits the collection tank, it again passes through a Brink mist eliminator for a second stage of entrainment removal.

The HCl gas then passes to a knock-out tank which is packed with coke as a third stage of Aroclor removal and then passes through a third mist-eliminator at the outlet of the knockout tank. (Knockout tank, coke and third mist eliminator installed on Phase I).*

HCl gas is then piped to an acid absorber where it is absorbed in water. The resulting acid solution then passes through a coalescing unit (liquid-liquid separator installed on Phase I) which reduces level of organics which has condensed out after absorption. The acid stream then is passed through carbon towers which adsorb solubilized organics in the product acid. The acid is then passed through filters to remove any carbon fines which are picked up in the carbon towers. The product acid is then pumped to storage from which it is sold. Occasionally, due to tank car shortage, storage tanks are full and acid must be sewered. Any gas which makes its way through the absorber is drowned by a water jet and sent to the process sewer. This sewered acid then passes through the process sewer where it is directed to one of the two limestone pits (second pit installed on Phase I) for neutralization.

After neutralization of all the HCl, the material passes through a settling chamber (settling chambers installed on Phase I) where suspended solids (inerts from limestone pit) are separated and carries adsorbed Aroclor out of solution with it. The clear water stream is then sent to Snow Creek. Phase II will improve coalescing and carbon tower removal with installation of an improved coalescer and will reduce flow of Aroclor containing water. Phase III will include tertiary treatment of the water stream discharged to Snow Creek.

II. Air Blowing to remove residual Cl_2 and HCl gas:

After completion of the chlorination step, the Aroclor is pumped to a horizontal tank where it is air blown to remove Cl_2 and residual HCl. These gases are drowned using a water jet and are routed to the process sewer. This water passes through the Aroclor department sump (installed - Phase I) prior to going to the limestone pit for neutralization. Any Aroclor which is entrained in this water or any Aroclor second phase is trapped in the Aroclor department sump. Phase II includes plans to recirculate this water to reduce net outflow to sump, neutralization and final treatment.

DSW 175568

* "Phase I" refers to three phase program detailed in subsequent sections.

III. Distillation:

After air-blowing the chlorinated mass is transferred to the still, where any HCl is neutralized with lime. This material is then distilled using heat and vacuum. Vacuum for the distillation step is provided by multi-stage steam jets. The steam from these jets is condensed and sent to the Aroclor department sump. Phase II includes plans for indirect rather than direct condensers on these jets to reduce net water outflow from the department.

Product Aroclor is transferred to storage tanks for later loading out in tank cars, tank trucks, or drums. Phase II includes plans to pave and curb all areas subject to Aroclor spills so that any spilled material is contained. Phase I has already provided curbing in the drumming area and pump drains, and drip pans to collect any small leaks from piping systems.

(1)

THREE PHASE PROGRAM SUMMARY AND PHASE I RESULTS

EFFLUENT CONTROL - AROCLOR

Report issued: March 23, 1970 and updated October 1970

OBJECTIVE: Polychlorinated biphenyl (PCB) is present in plant effluent. Actions are being taken to limit this pollution to a minimum to achieve plant goal of 0.1 lb./day in plant effluent.

SUMMARY:

A three phase plan is required. Each phase is aimed at eliminating a specific type of PCB discharge. Phase I will reduce the PCB level in effluent to the solubility limit (laboratory mixtures of water and Aroclors ranged from .05-.3 ppm apparent solubility). Phase II will reduce process-water contact in the Aroclor and HCl departments and with combination of streams will achieve approximately one third the solubility limit, and reduce discharge to the range of 1 lb./day. Phase III will consist of the development and installation of a method for removing dissolved PCB from water to approach the plant goal of 0.1 lb./day.

The initial action will consist of the installation of three sumps to collect undissolved PCB from the department liquid effluent streams and an off-gas separator, coalescer, and improved instrumentation to increase gaseous by-product recovery. Cost of the initial Phase I is $165,000 capital and timing on final project of Phase I is as follows: Project premise by 4/1/70, AFE by 4/15/70, design by 7/1/70 and completion targeted for 10/1/70 (actual completion 9/12).

FUTURE:

Support will be given to Production in their objective to develop and execute revised operating and housekeeping procedures for reduction of Aroclor spillage.

Phases II and III will begin as soon as the Anniston plant PCB analysis instrument is set up to support a 10-15 sample/day research and process improvement effort. Phase II results are targeted for first quarter '71, Phase III results are targeted to be completed third quarter '71.

DETAILS:

A daily sampling and analysis program to identify and quantify losses required set up of PCB analysis instruments in a new laboratory. These samples will be used to determine sources of process contamination of plant water and to evaluate methods of reducing total PCB losses.

(1) See reference #1 for master milestone chart of 52 pollution abatement jobs. In early October '70, new knowledge and action based thereon resulted in reduction of effluent discharge to 1-5 lb./day range approaching the Phase II target four months ahead of schedule.

DSW 175570

DETAILS - Continued

The plan of action to solve this problem includes three phases, each aimed at eliminating a specific type of PCB discharge. The first phase will eliminate two phase flow problem and reduce the PCB level to the solubility limits. The second phase will reduce water-Aroclor contact in the department, resulting in a reduction of the level to approximately one third the solubility limit. The third phase will consist of the development and installation of a method for removing dissolved PCB to approach the ultimate plant goal of .01 ppm or 0.1 lb./day.

Phase I is a short range plan aimed at quick results. Phases II and III will require a thorough study of sources and careful development of a method for reducing the suspended and dissolved PCB.

Efforts in Phases II and III will not be delayed until completion of Phase I. Preliminary studies will begin as soon as the Anniston Plant PCB analysis instruments are set up. The remainder of this report will deal with actions to be taken in Phase I.

Scope of Phase I

1. Install a sump at the north end of the Aroclor department to collect leaks, spills, and suspended PCB from department effluent. Cost = $31,700.

2. Purchase and install equipment to remove scum from sump. Cost $1600.

3. Install second limestone pit and warehouse sewer sump. Cost $35,000.

4. Off-gas knockout tank and coalescer supplementation of by-product carbon treatment. Cost $16,000.

5. Additional storage and instrumentation to improve by-product recovery and reduce sewering. Cost $80,000.

These measures are designed to protect the plant from spills caused by equipment failures and prevent such spills from leaving the plant. Design completion is planned for 7/1/70 and installation is targeted for 10/1/70.

PHASE II - PLANNING SCOPE & COST ESTIMATES

Completion: Earliest completion 7/1/71

Latest completion 10/1/71

PHASE II	Capital & Expense
1. Water Reduction 800 gpm to 200 gpm	$280,000
a. New fume scrubbers-packed bed instead of drowning jet.	
b. Recycle vacuum jet water with surface condensers rather than direct contact condensers.	
c. Reuse water for direct contact requirements.	
d. Carbon disposal improvements and repair acid sewer.	
e. Reroute sewer.	
2. Cleanup Potential Waste Streams	$21,100
a. Improved off-gas knockout tank.	
b. Improved liquid-liquid coalescer separator.	
3. Spill Containment	$53,900
a. Process drips collection	
b. Curbs and pads for containing potential spills.	
4. Complete upgrading of Limestone Pits to presettle before Phase III final Treatment.	$80,000
PHASE II totals:	$435,000

DSW 175572

STLCOPCB4050093

Monsanto

Monsanto Biodize Systems Inc.
510 Northern Boulevard
Great Neck, New York 11021
Phone: (516) 466-5511

October 23, 1970

Mr. J. Landwehr
Technical Services Supervisor
Monsanto Company
Anniston, Alabama

Re: Order of Magnitude Costs
Waste Treatment Facilities

Dear Joe:

At the request of Red Taffee, we have worked up some order of magnitude costs for the waste treatment facilities required for treatment of PCB's. Due to the lack of experimental data and research literature available on treatment of PCB's we have had to make gross assumptions for our cost figures. In addition, not being able to define the mechanism of PCB removal presented additional problems.

The process we have based our cost figures on consists of the following unit operations; Primary Sedimentation with Polyelectrolyte Addition, Carbon Adsorption with Regeneration, Sand Filtration, and Sludge Incineration.

We were not able to estimate readily at the prescribed flow rates of 200, 400, and 600 GPM respectfully but have presented figures for 350 and 700 GPM levels. They are as follows:

	350 GPM	700 GPM
Capital Cost	$490,000	$753,000
Operating Costs including, 8.5% Depreciation Labor Power Chemicals Maintenance	$0.93.1/1000 gal.	$0.82/1000 gal.

Monsanto
BIODIZE SYSTEMS INC.

DSW 175573

STLCOPCB4050094

As you can readily see, these costs are not reliable enough to be used for budgetary purposes.

When additional information becomes available they most certainly can be refined.

I do hope that this information satisfies your current needs.

Very truly yours,

A. J. Young
Supervisor, Field Operations

AJY/bg

cc: Mr. Red Taffee - Monsanto Company, Anniston, Alabama
Mr. F. W. Rodgers - Monsanto Biodize Systems, Inc.

DSW 175574

BETZ LABORATORIES, INC.

September 22, 1970

Monsanto Company
P. O. Box 249
Anniston, Alabama 36201

Attention: Mr. W. F. Taffee,
Superintendent, Engineering Design

Gentlemen:

Mr. Freeman and I certainly enjoyed visiting with you on September 9, 1970. In confirmation of our discussion, we are herewith submitting a proposal describing our services for the treatment of wastewater discharges that are currently being neutralized.

The problem, as we understand it, revolves around the need for a satisfactory neutralization procedure for the hydrochloric and phosphoric waste acids. In addition, you desire an efficient means for removal of the "organic" materials that would tie-in and supplement the solids disposal aspects of the neutralization system. Additional treatment systems for more complete removal of the "organics" will be evaluated in accordance with the levels achieved.

It is understood also that analytical testing of the organic materials, and possibly some of the inorganics such as phosphates, would be performed by your personnel in your laboratories. Our laboratory analytical capabilities would be used only in accordance with your requirements. Similarly, the operation of laboratory or pilot-scale equipment for the above described evaluations will be performed under our direction by your personnel if possible, and by our personnel is necessary.

While the scope of this project is sharply defined; namely, neutralization, "organic" removal, and sludge handling and disposal; the depth of investigation for each area is unknown at this time. The primary reason for the unknown project depth is that several neutralization procedures should be evaluated and these should in turn consider the degree of concurrent "organic" removal along with the volumes of sludge that will be generated for disposal. In like manner several evaluations will be required to determine the most efficient and economical system for "organic" removal as well as sludge disposal.

It is impossible to predict or estimate our consulting service charges, in view of the flexible project depth, and flexible use of our project engineering and laboratory capabilities.

DSW 175575

BETZ LABORATORIES, INC.

We can, however, describe our per diem rate schedule, which is as follows:

Principal Project Engineer's Time at your plant or in our offices - - - - - - - - - - - - -$180/day

Assistant Project Engineer's Time at your plant or in our offices - - - - - - - - - - - - -$140/day

Laboratory Testing Services - - - - - - - - - - - - - - $140/man day

Clerical and Stenographic Time - - - - - - - - - - - - $5/hour

Engineer's Out-of-Pocket Expenses including travel and living while away from our home office on your project - Charged at Cost

Our Consulting Services may be retained by your issuing a purchase order or letter of authorization with reference to this proposal. An invoice would be rendered at the end of each month for the services performed during that month and you would have full control of the degree to which our services were utilized. You would be charged only for the time actually spent on your project in accordance with the above described per diem rate schedule.

The Consulting Division of our Company operates as a separate entity within the Corporation and extends specialized engineering services on industrial water, industrial wastewater treatment, and air pollution control problems. The staff includes chemical, sanitary and civil engineers plus chemists and biologists experienced in these fields. Our Division has full use of the extensive facilities of the Laboratory Division for analytical testing, field surveys, laboratory studies, and pilot plant investigations of a physical, chemical, and biological nature.

The capabilities of our staff extends through process and functional engineering design. Through our affiliate, Albright & Friel, Inc., we can offer civil engineering design capabilities, if the client wishes. We have also coordinated our services with our clients' engineering departments on numerous occasions. Our Division is capable of extending supervisory guidance during the start-up and subsequent operational phases on any project undertaken.

We are also prepared, if desired, to represent our clients in contact with the regulatory authorities so that any study or program planned would be in accordance with local and State regulations.

DSW 175576

BETZ LABORATORIES, INC.

During the conduct of any study, we would serve you strictly as consultants, having no direct interest in the sale of chemicals or equipment. All recommendations would be based on economy, practicability, and sound engineering practices.

We trust that the foregoing satisfies your immediate needs. If you have any questions or desire any additional information, please contact us. We would be pleased to have this opportunity of extending our services to you and assure you of our full interest and cooperation.

Very truly yours,

BETZ LABORATORIES, INC.

E. Isenberg

Edward Isenberg
Project Engineer
Consulting Division

EI/dy

cc: Mr. J. C. Landwehr,
Superintendent of Technical Services

Mr. E. G. Wright,
Pollution Control Engineer

DSW 175577

STLCOPCB4050098

H Bergen, Bill Papageorge — Don't fire — 11-9-70

1. Texas City unit designed for heavy and low temperatures.

2. Construction cannot be delayed pending any changes we may wish to make.

3. Modifications and additional storage will approach an additional $200,000

4. J Savage does not relish trying to control 2d unit.

5. Sources of scrap Anodes in Southwest are not great

6. I recommend we not get involved. (Too much capital - not enough benefits)

Papageorge

Thanks - Jacque - Discuss with you

Yes path

DSW 175578

STLCOPCB4050099

CENTRAL ENGINEERING DEPARTMENT

SECTION REPORT

Section
PD & PM Organic Evaluation

Manager
M. P. Lux

Month
September

Date
October 2, 1970

~~Bob Kountz~~ pgl.

Bill Papageorge
- Note Bob's comments
- Can we send PCB's to Texas?

DISTRIBUTION

Central Engineering Department

J. O. Bright
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M. Dmytryszyn
L. L. Fellinger
R. E. Howard
R. M. Kountz
F. P. LaBelle
T. H. Lafferre
R. E. Lenz
R. E. Lischer
R. P. Stevens
Evaluation Section

1700 South Second Street

O. DeGarmo
M. W. Farrar
J. F. Quinn

Other Locations

F. W. Copanas
D. B. Edwards
J. W. Graves
R. J. Holtschlag
D. W. Jackson
W. R. Kellogg
H. W. Kilbourne
J. C. Landwehr
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Organic Division - General Offices

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W. R. Richard
C. W. Roos
J. R. Savage
C. J. Smith
J. E. Smith
J. E. Springgate
M. C. Throdahl
F. B. Zienty

9/13

Howard the incinerator control here is our inspection is installing at Japan City for C Ber. Chem and Hood & Line- It will burn the off-gases from Pegnetite. Can Co. Etc. The unit is very similar to our unit going in at [illegible]. The [illegible] so the HCl can be scrubbed. Environment control people will no longer let the gases be flared [illegible] of the resultant HCl.

CONFIDENTIAL INFORMATION

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DSW 175579

STLCOPCB4050100

SEPTEMBER, 1970

HIGHLIGHTS

Evaluations were completed on the ASPIRIN and SALICYLIC family, SANTOPHEN 7, CITRIC ACID, DIPEPTIDE SWEETENER, and MCS-1014 TRACTIVE FLUID.

Project definition started or continued on ORGANIC INCINERATOR - TEXAS CITY, 3,4,4'-TRICHLOROCARBANILIDE, AROMA ESTERS, VANILLIN, FUMARIC ACID, II BUILDING RESTORATION, PHOSGARD, and SANTOFLEX 13.

Liaison with Research continued on ASPIRIN, SALICYLIC ACID, AROMA ESTERS, and NC PHOSPHATES.

M. P. Lux

eb

DSW 175580

STLCOPCB4050101

CELLU-CHEM

Organic Incinerator - Texas City - CEA 2410

The project scope has been completed, and the appropriation request data transmittal has been prepared. Pre-approval of $100,000 was received from the Division General Manager for definitive design and purchase of long-delivery equipment. Future reporting will be by the individual monthly progress reports.

FINE CHEMICALS

Aspirin - CEA 7815

An evaluation was completed and issued for the future family position for salicylic acid and aspirin incorporating all technology changes being developed or considered for development. These changes include modified processes for technical salicylic acid, USP salicylic acid, recovered salicylic acid, and aspirin operations.

3,4,4'-Trichlorocarbanilide - CEA 7815

A study was made to determine the possible use of the unused benzoate equipment at Ruabon for the manufacture of TCC. With this preliminary evaluation, it appears that about half the equipment needed for a 1.5MM lb/yr TCC facility could be available in the existing equipment.

Specific project definition is awaiting a business group identification and review of market pricing and volume that will result in a viable project.

Santophen 7 - CEA 7815

A preliminary manufacturing cost estimate was prepared for the production of Santophen 7 utilizing the Santophen 1 facilities at the Krummrich plant.

This study was requested by Research personnel.

Salicylic Acid - CEA 2168

Liaison continued with Research on the development work proceeding in the laboratory on the LPC technical acid process.

An evaluation report was issued comparing alternate processing technology for USP salicylic acid. Sublimation using Monsanto and Wyssmont equipment was compared to a water recrystallization scheme for a 6MM lb/yr operation. This study was requested to guide our future USP salicylic business planning.

DSW 175581

STLCOPCB4050102

3,4,4'-Trichlorocarbanilide - Japan - CEA 9382

A preliminary equipment list, a process flow diagram, and a material balance were generated for a 600M lb/yr TCC manufacturing facility.

This limited activity was started to get background information in anticipation of early signing of a contract by Sanyo in which TCC technology is sold and Engineering provides a plant design manual. Sanyo is a Japanese company located in Kyoto, Japan.

FOOD AND FLAVOR

Aroma Esters - Queeny - CEA 2276

Work was started to define a specific project for the manufacture of several aroma esters in the idle north line of Queeny plant Department 23. The products included in the plans are those in which we have a raw material position, including benzyl benzoate, benzyl salicylate, benzyl acetate, amyl salicylate, and isobutyl salicylate.

Discussions were started with Research and Manufacturing personnel to review and define the basic project premises and technology. Present plans are to complete the definition and scope report in November.

Vanillin Expansion to 5.5MM lb/yr - Seattle - CEA 2400

The preliminary scope report draft was reviewed with representatives of Manufacturing, and the pre-project loss prevention and environmental control reviews were held. Revisions in scope resulting from these discussions plus attempts to resolve several undefined items have delayed issuance of the scope report until the first week in October.

Pre-approval was received to purchase critical long-delivery equipment and definitive engineering has been started in selected defined areas affecting plant capacity.

Pilot plant testing of crude vanillin distillation with the Luwa thin film evaporator was not as successful as would have been expected from tests on similar equipment in our Research pilot plant. Work is continuing to resolve the differences before a final decision would have to be made to continue with the present distillation technology.

Future reporting on this project will be by the individual monthly progress reports.

Saccharin - Queeny - CEA 7816

Contacts have been made with several companies to determine their interest and potential to take our chrome-containing waste

DSW 175582

STLCOPCB4050103

liquors from saccharin.

Diamond Shamrock, our current major chrome supplier, is interested, and a technical information and sample exchange is underway.

Citric Acid - CEA 7816

During the month, additional technical information was received to allow an updating of the economics of the Takeda fermentation technology for citric acid. This report was issued and is serving as a basis to formulate our future discussions on licensing the Takeda technology.

Dipeptide Sweetener - CEA 7816

An evaluation report was developed for Research for this synthetic sweetener. The economic study for 5 and 10 MM lb/yr operations considered the production of this compound from basic chemicals using a multiple-step synthesis.

Fumaric Acid Expansion - Queeny - CEA 7816

The economics are being developed for short and long term alternates to (1) supply maleic acid for fumaric acid independent of the capacity provided after the current maleic anhydride expansion, CEA 1792, and (2) expand and debottleneck the present fumaric acid department to the 35 to 40MM lb/yr level.

Queeny Plant Technical Services is preparing the initial evaluations, assisted by Engineering.

FUNCTIONAL FLUIDS

Tributyl Phosphate - Queeny - CEA 2371

The scope, estimate, and preliminary project schedule have been prepared in draft form. Final issuance is being withheld pending manufacturing review of the project scope. Hence, the appropriation request data transmittal will be delayed until October.

Tractive Fluid MCS-1014 - CEA 7817

Preliminary capital and manufacturing costs were developed for this product, which involves dimerization of alpha methyl styrene, followed by hydrogenation. These estimates were in support of commercial development, and included parameters of production volume, hydrogenation level, and catalyst recycle.

DSW 175583

STLCOPCB4050104

GENERAL CHEMICALS

Restoration of II Building - Queeny - CEA 2429

A design team of Central Engineering and Queeny Plant personnel has been assembled at the Queeny Plant to design and install facilities required for the resumption of operations in the II building. A preliminary scope of work has been issued; a safety review held; and pre-approval funds have been requested. Design is proceeding on verbal authority. Future reporting will be by the individual monthly progress reports.

PLASTICIZERS

Phosgard 2XC-20 - CEA 2427

A further search was made for existing facilities available for interim product manufacture.

An evaluation will be issued early in October comparing the economics of several alternate locations at Nitro with the Delaware River phosphate ester unit, which was previously considered.

RUBBER CHEMICALS

Santoflex 13 Expansion - Krummrich - CEA 2137

The preliminary scope report for addition of one 2000-gallon autoclave and auxiliaries will be completed in October. Consideration was given to incorporating a change from the present molten handling of 4NDPA to a solids-handling scheme, but economic evaluation indicated this was not justified. Hence the scope is being developed on the basis of continued handling of 4NDPA in the molten state.

Aniline and/or PNCB for Europe - CEA 2426

A Monsanto Europe study group has been assigned to recommend actions for back integration of intermediates supporting the paraphenylene diamine (PPD) family of products in Europe. Raw materials practice and specifications data were transmitted to the study group. During October, engineering work will commence to develop capital and operating costs for the alternates of MCB-PNCB-4NDPA route to PPD's versus the aniline-diphenylamine-4NODPA route.

Sulfenamides - Argentina - CEA 2202

A capital estimate for this plant was prepared by the Argentina office of A. G. McKee, and is currently being reviewed within CED. After review, an appropriation request data transmittal will be prepared.

DSW 175584

STLCOPCB4050105

Sulfenamides - MAL - CEA 7824

At the request of the Manager, Foreign Manufacturing, project scope information which had been developed for the proposed sulfenamides unit in Argentina was adapted for possible application to Monsanto Australia, Limited, adding Santocure MOR to the product mix. No further work is contemplated at this time.

Low-Melt Flectol H - CEA 7824

At the request of Research, capital and manufacturing costs for two alternate routes to low-melt Flectol H are being prepared. The alternates involve use of HCl or TSA as catalyst. The report will be published in early October.

UTILITIES

Waste Water Treating - Krummrich - CEA 9372

The first elements of design were completed and given to the plant for construction. This phase is scheduled to be operating by October 5. Research anticipates that additional work will be required; however, further definition is not practical until after this first startup.

Engineering is proceeding with a lagoon design as requested.

00000

DSW 175585

STLCOPCB4050106