

MINUTES OF MEETING  
CMA EXECUTIVE COMMITTEE  
Olympic Room, Hyatt Regency on Capitol Hill  
Washington, D. C.  
Monday, November 2, 1981

1. The meeting was called to order at 1:30 p.m. by Chairman Simeral. There were present:

William G. Simeral, Chairman  
Richard C. Ashley  
Harry W. Buchanan  
Louis Fernandez  
Alexander F. Giacco  
James B. Henderson  
Richard J. Hughes

Richard H. Leet  
Paul F. Oreffice  
L. John Polite, Jr.  
Robert A. Roland  
George J. Sella, Jr.  
Konrad M. Weis

Bruce M. Barackman, Secretary  
Edmund B. Frost, General Counsel  
Gary C. Herrman, Treasurer

By Invitation:

Jackson B. Browning, Union Carbide Corporation  
D. Chris Cathcart, CMA  
Geraldine V. Cox, CMA  
John E. Dull, E. I. du Pont de Nemours & Company  
William C. Krumrei, The Procter & Gamble Company  
Victor H. Peterson, CMA  
Ernest S. Robson, Jr., SOCMA, Monsanto Company  
James N. Sites, CMA  
William M. Stover, CMA  
Otto Sturzenegger, CIBA-GEIGY Corporation

2. Minutes of the Last Meeting The minutes of the September 28, 1981 meeting, as distributed, were approved.

3. Treasurer's Report Mr. Herrman's report is attached as Exhibit A. In addition he advised that the financial statements through September 30, 1981 indicate significant variances only in the revenue area with dues being less than budget. This, however, is offset by greater investment revenue than anticipated.

4. Association Activities

a. Report of Special Programs Advisory Committee

Following the presentation of his report, Exhibit B, Dr. Sturzenegger recommended reauthorization of the Special Programs Advisory Committee for another year. This was approved.

CMA 012746

#### Fluorocarbons

SPAC approved a limited advocacy role for the Fluorocarbons Program Panel so that the panel could make statements on science. The first was in response to the November 1979 NAS Report, "Stratospheric Ozone Depletion by Halocarbons: Chemistry and Transport."

SPAC recommended that the panel continue its limited advocacy charter and appointed two members to explore appropriate means of coordinating the Alliance, the CMA Fluorocarbons Panel and the CMA Section 4 Testing Task Force of the Chemical Regulations Advisory Committee.

#### Ketones

SPAC endorsed the panel's plans to establish an early dialogue with EPA regarding the anticipated TSCA Section 4(a) rule. However, SPAC recommended that the panel's charter be amended to include epidemiologic studies and possible evaluation of the environmental effects of ketone.

#### Phthalate Esters

In early 1980 the Phthalate Esters panel planned a material handling survey of the manufacturers, distributors and users of phthalates. However, since CMA is a trade association representing manufacturers, SPAC recommended that all action be tabled until the Society of the Plastics Industry could be contacted. In the meantime a study by the National Cancer Institute became available which for the first time raised health effects concerns for phthalate esters. In addition, based upon NCI's findings, EPA requested additional information on PMNs for phthalate esters. The panel was concerned that EPA had taken regulatory action on preliminary information and that EPA might come up with an unreasonable TSCA section 4(a) rule. SPAC recommended that the panel add advocacy to its charter and that they establish a dialogue with EPA on developing a voluntary test standard. This was a valuable recommendation as can be seen by the subsequent accomplishments of this panel (section 7.4 of the attachment).

#### Titanium Dioxide

SPAC recommended that in the absence of any significant findings in the long-term inhalation study in progress at duPont, the panel consider disbanding.

#### Vinyl Chloride

The Vinyl Chloride Panel hired an independent consultant to review the work performed by Industrial Bio-Test (IBT) under contract to CMA. This consultant recommended that CMA examine animal tissues still available from the study. The panel did not act upon this recommendation. However, they did ask IBT for a refund of the \$130,000 they had already paid under the contract. The panel was waiting for financial resolution with IBT before submitting a final report to government agencies. SPAC recommended that the panel not wait for resolution before submitting a final and report that they act upon the consultants recommendation to do additional histopathology. The Panel followed this recommendation.

#### 8.10 Ethylene Dichloride (EDC)

The Ethylene Dichloride Program Panel was formed in February, 1975 to evaluate the adequacy of knowledge relating to EDC. The panel initiated a chronic inhalation, a metabolic, and a teratogenic study in experimental animals. The Panel decided to disband, pending the acceptance of all final reports on this research. This decision was reversed when it was learned that EPA was considering proposing a TSCA Section 8(a) rule.

#### 8.11 Ethylene Oxide (EO)

A study conducted at Bushy-Run labs showed Ethylene Oxide to be carcinogenic in rats. Industry was interested in gathering information on the safe handling of Ethylene Oxide which led to the formation of the Ethylene Oxide Industry Council on July 30, 1981. The Council operates through an Executive Committee and four operating committees: Scientific, Regulatory, Finance and Membership, and Communications.

The Council is developing information regarding responsible industry programs to: 1) control exposure to ethylene oxide; 2) to develop relevant scientific, technological and economic data; and, 3) to cooperate with other national and international organizations having similar objectives. The Council will present this information and data to any United States federal, state or municipal governmental body considering regulatory controls on ethylene oxide so as to assure that such standards, regulations or policies, are reasonable, scientifically sound, and economically and socially effective.

The Council developed a response to the petition filed by the Public Citizen Health Research Group and the American Federation of State, County and Municipal Employees to lower the exposure standard for ethylene oxide. The petition asked that the eight hour TWA be lowered from 50 ppm to 1 ppm and that a short-term exposure level of 5 ppm be established. Representatives of the Council met with OSHA officials on September 2 to discuss industry's concern regarding the petition. On September 29 OSHA denied the petition.

#### 8.12 Fluorocarbons (FC)

The Fluorocarbon Program was formally organized in the Spring of 1973 with essentially all of the Free World producers of chlorofluorocarbons (CFCs) supporting the effort. The panel's initial purpose was to determine the fate of CFCs in the atmosphere and the effects they may produce on plants or animals. There was no suspicion of their effect on the stratosphere.

With the publication of the Ozone Depletion Theory in June, 1974 the Program was expanded and accelerated. To date, over \$10,000,000 has been spent on this research. There is no indication that the participants intend to curtail this effort in the immediate future.

eral agencies. The panel also reviewed a draft final report on a styrene pharmacokinetic study in mice. The latter study indicated species differences with respect to acute styrene toxicity in rats and mice. The panel presently is assessing how these differences relate to man before proceeding further with a research program.

The panel incorporated a Regulatory Task Group to address EPA's proposed regulations (NESHAP) for benzene emissions from ethyl benzene/styrene plants comments were submitted to EPA on June 1, 1981.

#### 8.20 Titanium Dioxide (TD)

In 1977, Du Pont initiated a review of the literature on titanium dioxide toxicity and concluded that further information was needed to answer possible questions which might be directed at titanium dioxide. The impact of the Toxic Substances Control Act also raised concern as to the adequacy of existing information.

The panel has tentatively concluded that a historical mortality study is not justified at this time. The panel plans to terminate program activities if no new evidence of human health effects is reported as a result of the two year inhalation studies being conducted by Du Pont.

#### 8.21 Trichloroethylene (TCE)

The Trichloroethylene Program Panel was formed on May 12, 1975 in response to an NCI Memorandum of Alert. The panel's primary concern was a long-term inhalation study. A contract was signed in 1975 with Industrial BIO-TEST Laboratories (IBT) to conduct such a study. The testing performed by IBT resulted in a number of grave inadequacies and a final report was not issued. Therefore, the CMA TCE Audit Task Group prepared an audit report. EPA's Cancer Assessment Group has asked the panel to provide validation of chamber concentrations for the first 12 to 15 months of the IBT study.

The panel is monitoring the progress of the NCI bioassay on TCE which involves several strains of mice and rats.

Although the panel contemplated an epidemiological study, SOCMA determined that a study population for an epidemiologic investigation would be too small to yield statistically significant results. Therefore, such a study was not conducted.

#### 8.22 Vinyl Chloride (VC)

Since 1972, the Program Panel has supported activities related to the accumulation and assessment of health and safety data of vinyl chloride monomer.

After funding several animal studies, the emphasis on research shifted from toxicological investigations to the early diagnosis and clinical management of vinyl chloride-related injuries. The panel is also funding an update of a vinyl chloride epidemiology study of 10,000 workers.

The panel has maintained a close liaison with SPI and several European-based companies. The present interest in polyvinyl chloride (PVC) dust control limits in the UK is being closely followed. Several months ago OSHA requested information on PVC dust; however, no notice has been published or other action taken.

#### 8.23 Vinylidene Chloride (VDC)

The Vinylidene Chloride Program Panel was formed in May 15, 1974 to investigate the potential toxicologic effects and pharmacokinetics of inhaled and ingested VDC in laboratory animals. Dow Chemical, which was planning research on VDC toxicology, agreed to convert its program into an industry-wide effort. The Two-Year Inhalation Toxicity and Oncogenicity Study of Vinylidene Chloride in Rats is still in progress.

The Work Practices Task Group of the panel prepared a Health and Safety Work Practices Guideline for Vinylidene Chloride to minimize exposure to VDC. The Guidelines were sent to the Director of NIOSH and the Project Manager for Criteria Documents at SRI. They received no other distribution.

The panel is preparing to respond to a Health Risk Assessment Criteria document on VDC under preparation by the EPA Criteria and Health Assessment Group. OSHA does not have a standard for VDC and EPA is unlikely to require any further toxicity testing on VDC under TSCA Section 4.

The pharmacokinetics and metabolism research show a species sensitivity of Mouse>Rat>Man. The total data bank indicates oncogenicity is not observed without recurrent tissue damage and without a cytotoxic dose; a tumorigenic response in man would be an improbable event.

#### 8.24 Zinc Dialkyl Dithiophosphates (ZDDP)

The ZDDP Program Panel was chartered in November 1980 to conduct research on this class of oil additives. As a first step, gonadal toxicity studies of three ZDDP compounds were initiated in immature and mature rats and rabbits.

Obvious species differences were observed between rabbits and rats with respect to ZDDP toxicity. Consequently, the panel proposes to conduct a comparative in vivo pharmacokinetic study

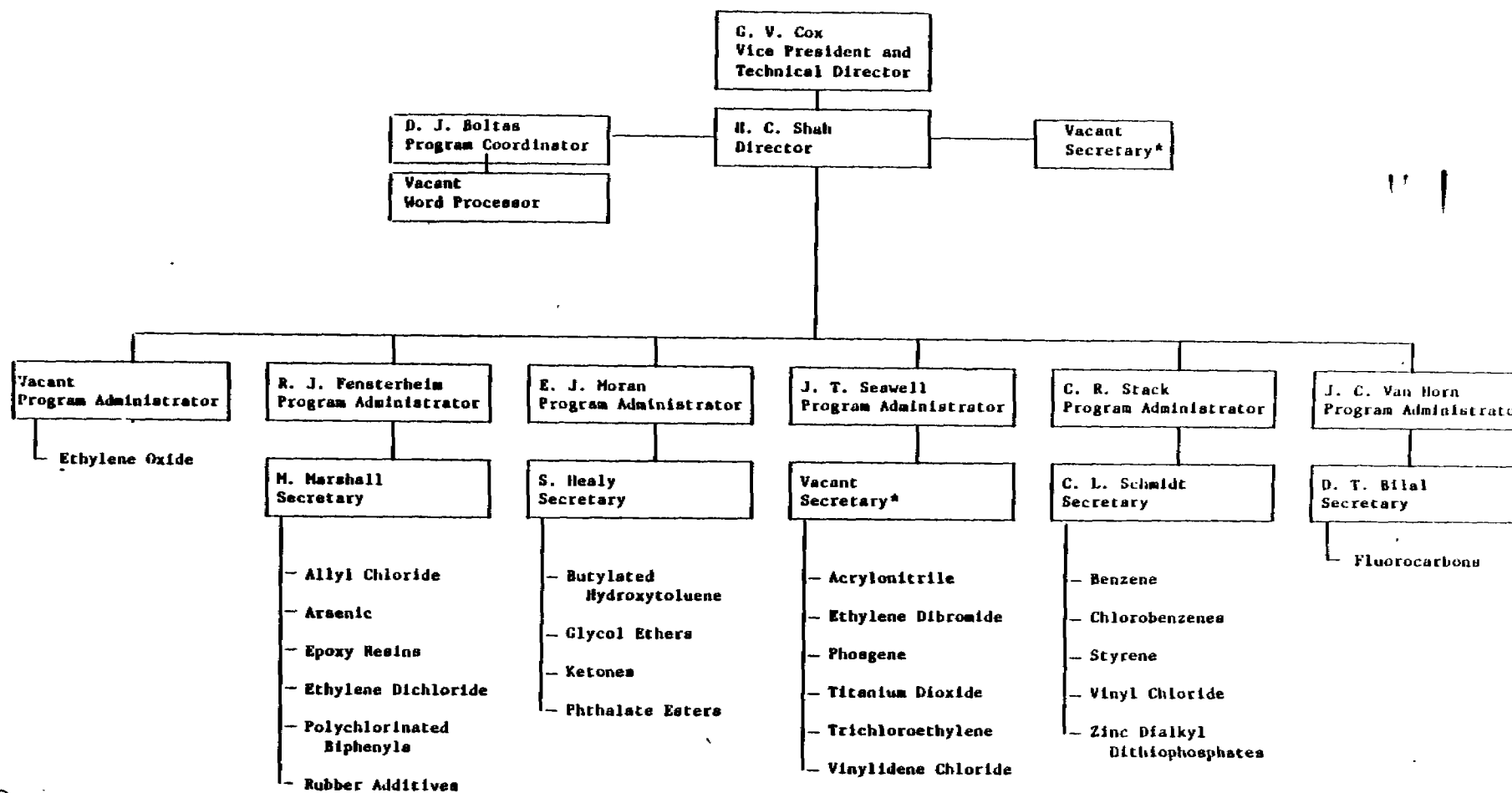
TABLE 1

BIOMEDICAL AND ENVIRONMENTAL SPECIAL PROGRAMS BUDGET SUMMARY<sup>a</sup>

| PROGRAM                          | RESEARCH AND<br>ADVOCACY COMMITMENT | ADMINISTRATIVE<br>EXPENSES | TOTAL        |
|----------------------------------|-------------------------------------|----------------------------|--------------|
| Acrylonitrile                    | \$ 728,484                          | \$ 79,172                  | \$807,656    |
| Allyl Chloride                   | 309,500                             | 17,186                     | 326,686      |
| Arsenic                          | 10,000                              | 8,600                      | 18,600       |
| Benzene                          | 3,048,684                           | 112,262                    | 3,160,946    |
| Butylated<br>Hydroxytoluene      | 21,944                              | 29,467                     | 51,411       |
| Chlorobenzenes                   | 370,722                             | 37,952                     | 408,674      |
| Epichlorohydrin                  | 315,032                             | 27,432                     | 342,464      |
| Epoxy Resins                     | - 0 -                               | 15,059                     | 15,059       |
| Ethylene Dibromide               | 10,039                              | 43,032                     | 53,071       |
| Ethylene Dichloride              | 288,100                             | 64,449                     | 352,549      |
| Ethylene Oxide                   | - 0 -                               | 15,518                     | 15,518       |
| Glycol Ethers                    | 313,000                             | 15,232                     | 328,232      |
| Ketones                          | 208,880                             | 28,977                     | 237,857      |
| Phosgene                         | 217,512                             | 85,728                     | 303,240      |
| Phthalate Esters                 | 186,585                             | 132,628                    | 319,213      |
| Polychlorinated Biphenyls        | 100,434                             | 18,869                     | 119,303      |
| Rubber Additives                 | 30,725                              | 17,730                     | 48,455       |
| Styrene                          | 708,218                             | 66,545                     | 774,763      |
| Titanium Dioxide                 | 30,725                              | 23,969                     | 54,694       |
| Trichloroethylene                | 490,506                             | 89,738                     | 580,244      |
| Vinyl Chloride                   | 1,326,562                           | 119,701                    | 1,446,263    |
| Vinylidene Chloride              | 729,482                             | 57,440                     | 786,922      |
| Zinc Dialkyl<br>Dithiophosphates | 79,857                              | 12,207                     | 92,064       |
| Subtotal                         | 9,524,991                           | 1,118,893                  | 10,643,884   |
| Fluorocarbons                    | 9,216,650                           | 569,753                    | 9,786,403    |
| TOTAL                            | \$18,741,641                        | \$1,688,646                | \$20,430,287 |

<sup>a</sup> Fluorocarbons program from start thru May 30, 1981. All other programs start to September 25, 1981.

CMA 012751



\*shared

Figure 1 - Biomedical and Environmental Special Programs Division

LIST OF SPECIAL PROGRAMS

| <u>NUMBER</u> | <u>PROGRAM NAME</u>               | <u>PROGRAM TYPE</u>   | <u>START DATE</u> | <u>COMPLETION DATE</u> |
|---------------|-----------------------------------|-----------------------|-------------------|------------------------|
| 1.            | Acrylonitrile                     | Research              | 06/20/74          |                        |
| 2.            | Allyl Chloride                    | Research              | 08/19/75          |                        |
| 3.            | Arsenic                           | Research and Advocacy | 01/29/81          |                        |
| 4.            | Benzene                           | Research and Advocacy | 02/08/77          |                        |
| 5.            | Butylated Hydroxytoluene<br>(BHT) | Research and Advocacy | 09/19/77          |                        |
| 6.            | Chlorobenzenes                    | Research              | 12/16/74          |                        |
| 7.            | Epichlorohydrin                   | Research              | 08/19/75          | 08/31/80               |
| 8.            | Epoxy Resins                      | Research and Advocacy | 01/18/77          |                        |
| 9.            | Ethylene Dibromide                | Research              | 03/22/79          |                        |
| 10.           | Ethylene Dichloride               | Research              | 12/17/74          |                        |
| 11.           | Ethylene Oxide                    | Research and Advocacy | 04/16/81          |                        |
| 12.           | Fluorocarbons                     | Research and Advocacy | 04/09/73          |                        |
| 13.           | Glycol Ethers                     | Research and Advocacy | 06/26/80          |                        |
| 14.           | Ketones                           | Research and Advocacy | 01/23/80          |                        |
| 15.           | Phosgene                          | Research              | 05/18/72          |                        |
| 16.           | Phthalate Esters                  | Research and Advocacy | 02/24/72          |                        |
| 17.           | Polychlorinated Biphenols         | Advocacy              | 02/11/81          |                        |
| 18.           | Rubber Additives                  | Research and Advocacy | 09/10/79          |                        |
| 19.           | Styrene                           | Research and Advocacy | 10/24/74          |                        |
| 20.           | Titanium Dioxide                  | Research              | 06/13/77          |                        |
| 21.           | Trichloroethylene                 | Research              | 05/12/75          |                        |
| 22.           | Vinyl Chloride                    | Research and Advocacy | 11/16/71          |                        |
| 23.           | Vinylidene Chloride               | Research              | 05/15/74          |                        |
| 24.           | Zinc Dialkyl<br>Dithiophosphates  | Research and Advocacy | 10/02/80          |                        |

COMPANIES PARTICIPATING IN SPECIAL PROGRAMS

ABBOTT LABS  
Ethylene Oxide

AIR PRODUCTS  
Vinyl Chloride

AKZO CHEMIE BV  
Fluorocarbons

ALLIED CORPORATION  
Fluorocarbons, Ketones, Phthalate Esters, Phosgene

AMAX LEAD & ZINC, INC.  
Arsenic

AMERICAN CYANAMID  
Acrylonitrile, Phthalate Esters, Rubber Additives

AMERICAN HOECHST  
Styrene

AMOCO  
Benzene, Styrene, Zinc Dialkyl Dithiophosphates

ANACONDA COPPER COMPANY  
Arsenic

ARCO CHEMICAL  
Benzene, Phthalate Esters, Polychlorinated Biphenyls

ARCO/POLYMERS  
Styrene

ASAHI-DOW LIMITED  
Vinylidene Chloride

ASAHI GLASS CO., LTD.  
Fluorocarbons, Vinylidene Chloride

ASARCO INC.  
Arsenic

ASHLAND CHEMICAL  
Benzene

ASSOCIATED OCTEL COMPANY  
Ethylene Dibromide

AUSTRALIAN FLUORINE CHEMICALS PARTY, LTD.  
Fluorocarbons

BASF WYANDOTTE  
Ethylene Dichloride, Ethylene-Oxide, Phosgene, Phthalate Esters.

BECTON DICKINSON  
Ethylene Oxide

BETHLEHEM STEEL  
Benzene

BORDEN CHEMICAL  
Ethylene Dichloride, Phthalate Esters, Vinyl Chloride

BORG-WARNER CHEMICALS  
Acrylonitrile, Styrene

BRISTOL LABS  
Ethylene Oxide

C-I-L, INC.  
Trichloroethylene

CELANESE PLASTICS SPECIALTIES CO.  
Epoxy Resins, Ethylene Oxide

CERTAIN-TEED  
Vinyl Chloride

CHESEBROUGH PONDS  
Ethylene Oxide

CHEVRON  
Phthalate Esters, Zinc Dialkyl Dithiophosphates

CIBA-GEIGY  
Epoxy Resins

CONOCO CHEMICALS  
Ethylene Dichloride, Ethylene Oxide, Phthalate Esters, Vinyl Chloride

COSDEN OIL  
Benzene, Styrene

CRESCENT MANUFACTURING CO  
Ethylene Oxide

DAIKIN KOGYO CO. LTD.  
Fluorocarbons

DART INDUSTRIES

Butylated-Hydroxytoluene

DIAMOND SHAMROCK

Arsenic, Ethylene Dichloride, Polychlorinated Biphenyls, Phthalate Esters, Trichloroethylene, Vinyl Chloride

DOW CHEMICAL

Acrylonitrile, Allyl Chloride, Benzene, Chlorobenzenes, Epoxy Resins, Ethylene Dibromide, Ethylene Dichloride, Ethylene Oxide, Glycol Ethers, Ketones, Styrene, Trichloroethylene, Vinyl Chloride, Vinylidene Chloride

E. I. DU PONT DE NEMOURS & CO.

Acrylonitrile, Benzene, Ethylene Dichloride, Fluorocarbons, Phosgene, Phthalate Esters, Polychlorinated Biphenyls, Titanium Dioxide, Vinylidene Chloride

DU PONT CANADA INC.

Fluorocarbons

ELCO CORPORATION

Zinc Dialkyl Dithiophosphates

EL PASO PRODUCTS COMPANY

Styrene

EASTMAN KODAK

Polychlorinated Biphenyls

ESSEX CHEMICAL (RACON)

Fluorocarbons

ETHYL CORPORATION

Allyl Chloride, Ethylene Dibromide, Ethylene Dichloride, Phthalate Esters, Trichloroethylene, Vinyl Chloride, Zinc Dialkyl Dithiophosphates

EXXON

Benzene, Ketones, Polychlorinated Biphenyls, Phthalate Esters, Vinyl Chloride, Zinc Dialkyl Dithiophosphates

FOXMATIC CORP

Ethylene Oxide

GENERAL ELECTRIC

Phosgene, Phthalate Esters, Polychlorinated Biphenyls

GENERAL TIRE & RUBBER

Phthalate Esters, Vinyl Chloride

BFGOODRICH

Allyl Chloride, Ethylene Dichloride, Rubber Additives, Vinyl Chloride, Vinylidene Chloride

GOODYEAR TIRE & RUBBER

Rubber Additives, Vinyl Chloride

W. R. GRACE

Vinyl Chloride, Vinylidene Chloride

GREAT AMERICAN CHEMICAL

Vinyl Chloride

GREAT LAKES

Ethylene Dibromide

GULF CHEMICAL CO.

Acrylonitrile, Benzene, Ethylene Dichloride, Styrene, Vinyl Chloride

GULF & WESTERN

Titanium Dioxide

HALCON

Ethylene Oxide

HOECHST AG/AMERICAN HOECHST

Fluorocarbons

HOOKER CHEMICAL

Polychlorinated Biphenyls, Trichloroethylene, Vinyl Chloride

ICI AMERICAS

Ethylene Dichloride, Glycol Ethers, Vinyl Chloride

IMPERIAL CHEMICAL INDUSTRIES PLC

Fluorocarbons, Trichloroethylene

INMONT CORPORATION

Phthalate Esters

ISC CHEMICALS LTD

Fluorocarbons

JAPAN FLON GAS ASSOC.

Fluorocarbons

JOHNSON & JOHNSON

Ethylene Oxide

KAISER ALUMINUM AND CHEMICAL CORP  
Fluorocarbons, Polychlorinated Biphenyls

KALI CHEMIE AG  
Fluorocarbons

KENDALL CO  
Ethylene Oxide

KEYSOR-CENTURY  
Vinyl Chloride

KOPPERS COMPANY  
Arsenic, Benzene, Butylated Hydroxytoluene, Phthalate Esters

KUREHA CHEMICAL INDUSTRY  
Vinylidene Chloride

LUBRIZOL  
Zinc Dialkyl Dithiophosphates

MALLINCKRODT INC  
Ethylene Oxide

MICRO BIOTROL  
Ethylene Oxide

MITSUMI FLUOROCHEMICALS LTD  
Fluorocarbons

MOBAY CHEMICAL  
Phosgene, Rubber Additives

MOBIL OIL CORPORATION  
Benzene, Phthalate Esters

MONSANTO COMPANY  
Acrylonitrile, Benzene, Chlorobenzenes, Ketones, Polychlorinated  
Biphenyls, Phthalate Esters, Rubber Additives, Styrene, Vinyl  
Chloride, Vinylidene Chloride

MONTEDISON SPA  
Fluorocarbons, Phosgene

MONTROSE CHEMICAL CORP OF CA  
Chlorobenzenes

MORTON CHEMICAL  
Vinylidene Chloride

NALCO CHEMICAL COMPANY  
Ethylene Oxide

NL INDUSTRIES  
Titanium Dioxide

OLIN CORPORATION  
Glycol Ethers, Polychlorinated Biphenyls, Phosgene, Vinylidene Chloride

OSMOSE WOOD PRESERVING COMPANY  
Arsenic

PANTASOTE  
Phthalate Esters

PENNWALT  
Arsenic, Fluorocarbons, Rubber Additives

PHILLIPS PETROLEUM COMPANY  
Benzene

PPG INDUSTRIES  
Chlorobenzenes, Ethylene Dibromide, Ethylene Dichloride, Ethylene Oxide, Glycol Ethers, Polychlorinated Biphenyls, Phosgene, Trichloroethylene, Vinyl Chloride, Vinylidene Chloride

POLYSAR LIMITED  
Benzene

PRODUITS CHIMIQUES UGINE KUHLMANN  
Fluorocarbons

REICHOLD CHEMICALS  
Epoxy Resins

ROHM & HAAS  
Vinylidene Dichloride

RUBICON  
Phosgene

SALSBURY LABS  
Arsenic

SCM CORPORATION  
Titanium Dioxide

SHELL CHEMICAL COMPANY  
Allyl Chloride, Benzene, Butylated Hydroxytoluene, Epoxy Resins, Ethylene Dichloride, Ethylene Oxide, Glycol Ethers, Ketones, Phthalate Esters, Vinyl Chloride, Styrene, Zinc Dialkyl Dithiophosphates,

SHERWIN WILLIAMS  
Butylated Hydroxytoluene

SHERWOOD MEDICAL  
Ethylene Oxide

SHOWA DENKO KK  
Fluorocarbons

STANDARD CHLORINE CHEMICAL CO  
Chlorobenzenes

STANDARD OIL (OHIO)  
Acrylonitrile, Benzene

STANGE COMPANY  
Ethylene Oxide

STAUFFER CHEMICAL  
Ethylene Dichloride, Phosgene, Phthalate Esters, Polychlorinated  
Biphenyls, Vinyl Chloride

STEPEN CHEMICAL  
Phthalate Esters

SUN PETROLEUM PRODUCTS  
Styrene

SUNSHINE MINING CO  
Arsenic

TECKNOR-APEX  
Phthalate Esters

TENNESSEE EASTMAN  
Acrylonitrile, Glycol Ethers, Ketones, Phthalate Esters, Vinylidene  
Chloride

TENNECO CHEMICALS  
Vinyl Chloride

TEXACO INC  
Benzene, Ethylene Oxide, Glycol Ethers, Zinc Dialkyl Dithiophos-  
phates,

TIOXIDE CANADA, LTD  
Titanium Dioxide

TOMS RIVER  
Phosgene

TRAVENOL LABS  
Ethylene Oxide

UNION CARBIDE  
Benzene, Ethylene Dichloride, Ethylene Oxide, Glycol Ethers, Ketones,  
Polychlorinated Biphenyls, Phosgene, Phthalate Esters, Styrene, Vinyl  
Chloride

UNION OIL OF CA  
Vinylidene Chloride

UNIROYAL, INC.  
Acrylonitrile, Butylated Hydroxytoluene, Rubber Additives, Vinyl Chloride

USS CHEMICALS  
Benzene, Phthalate Esters, Styrene

UPJOHN COMPANY  
Phosgene

VULCAN MATERIALS  
Ethylene Dichloride, Polychlorinated Biphenyls

WITCO CHEMICALS  
Phthalate Esters

WARREN CHEMICAL CO  
Ethylene Oxide

9/25/81

CMA 012761