CHEMSTAR

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A Report On The Year 1991-1992

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Chairman's Remarks

This year marks the Twentieth Anniversary of CHEMSTAR. Twenty years of solid accomplishments for our industry is a signal achievement. Over the years, the commitments and efforts of hundreds of people with a wide spectrum of skills have helped make CHEMSTAR panels and councils the effective organizations they are today. On behalf of the CHEMSTAR Policy Committee, representing the CMA Board of Directors, I congratulate all panel and council members, past and present, who have sustained this effort. We look forward to another twenty years, and more, of strong and fruitful actions in addressing our companies' specialized interests. In support of this expectation I urge that our member companies ensure that they are providing adequate personnel resources to CHEMSTAR organizations and recognize the contributions that those persons make to our industry's continued progress.

Seymour S. Preston 3

Seymour S. Preston, III
Elf Atochem North America, Inc.
Chairman, CHEMSTAR Policy Committee

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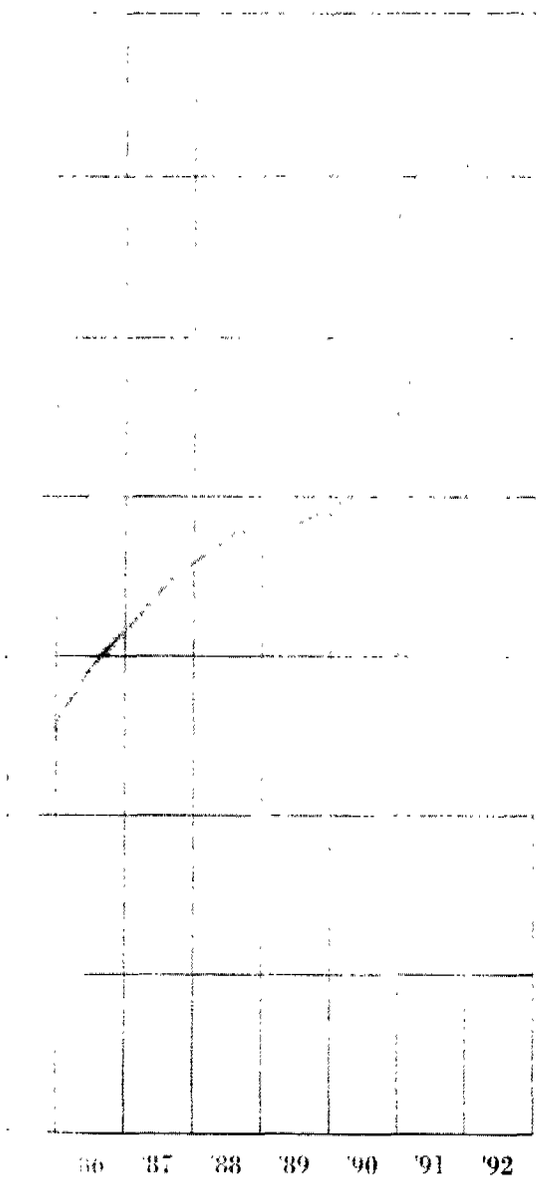

President's Overview

This year CMA celebrates 120 years of service to the chemical manufacturing industry. For the last two decades this service has been augmented by the work of the CHEMSTAR panels and councils. Beginning in 1972, with a single group of 13 representatives of phosgene manufacturers, CHEMSTAR has grown into a network of 230 panels, councils, and their supporting task, work and study groups. Today's CHEMSTAR organizations are maintained through the efforts of more than 900 representatives from companies and other associations.

From that first phosgene project in which member companies pooled $30,000 to support research on safety improvement, CHEMSTAR has developed into hundreds of projects on which companies spend about $21.5 million annually for:

- advocacy at the state, federal and international levels;
- research on health, safety and environmental issues;
- education of member company personnel;
- communication of information to customers and the public;
- evaluation of member company and customer performance; and,
- litigation on key issues.

Through the years the panels and councils have earned a reputation among policy makers and regulators for fostering the development of health, safety and environmental policies based on sound science. This has led to successes that have saved our industry millions of dollars by reducing the amounts of testing, reporting, and technology implementation necessary to achieve regulatory compliance and continuous improvements.

The accomplishments of the panels and councils are especially noteworthy because they are the results of cooperation between direct competitors in particular markets. Special commendation should go to the leaders of these groups for their tireless efforts to foster the understanding of issues, to achieve consensus positions, and to coordinate appropriate actions that respect the needs of individual member companies.

After all, satisfying the specific needs of members is the foundation of CHEMSTAR. The Association's implementation of Total Quality Management will even further refine the processes by which panels and councils, and the CMA staff, deliver services to our members.

As more company executives have recognized the success of cooperative programs, and the importance of supporting participation by their company's personnel in CHEMSTAR panels and councils, the levels of expertise and effectiveness of these groups have increased. We believe that further demonstrated successes will encourage our companies to use the CHEMSTAR method even more to address their common issues. The future challenge for CHEMSTAR groups then, is to sustain and improve on an already admirable record of contributions to our industry.

Robert A. Roland
President
Chemical Manufacturers Association

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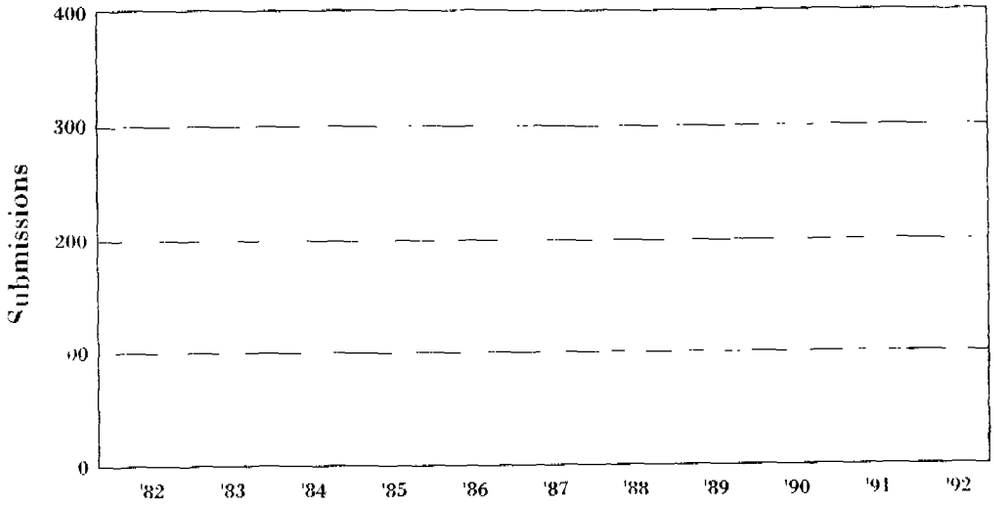
Figure 1
CHEMSTAR Panels and Councils

Submissions to Government Agencies



Butadiene Panel Chairman Norman Morrow of Exxon (l.) presents award to Roger Daniel of Dow for successful negotiations with OSHA.

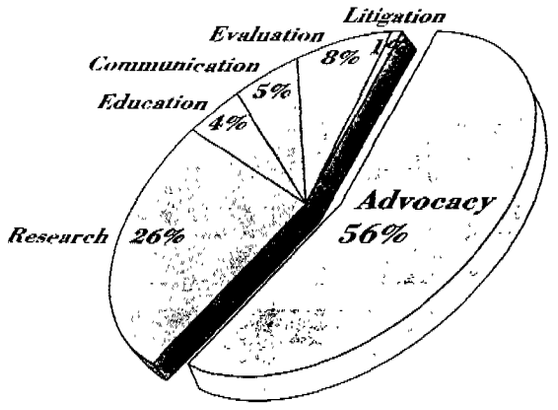
During the year, 46 CHEMSTAR Panels and Councils focused their efforts on regulatory advocacy. Groups submitted comments on pending regulations, and research data, to many federal, state and international agencies.

Of all federal agencies, EPA received the greatest attention from CHEMSTAR groups. TSCA Section 4 is the chief concern of 24 panels. The growth in environmental regulations of individual chemicals continued, causing increased panel focuses on the Clean Air Act, SARA, Safe Drinking Water Act, and RCRA. FIFRA concerns continued to accelerate as an area of panel activity. Among other federal agencies, the Agency for Toxic Substances and Disease Registry, Food and Drug Administration, and the Occupational Safety and Health Administration once again caused panel actions.

Among state agencies, the California Department of Food and Agriculture continued to attract the most panel activity. This attention is due to Proposition 65 implementation and data call-ins on industrial chemicals. Of the international agencies, the United Nations Environment Programme, U.S. Department of State, International Maritime Organization, and the Food and Agriculture Organization/World Health Organization were significant CHEMSTAR focuses.

Figure 2
CHEMSTAR Division

Staff Time Allocations



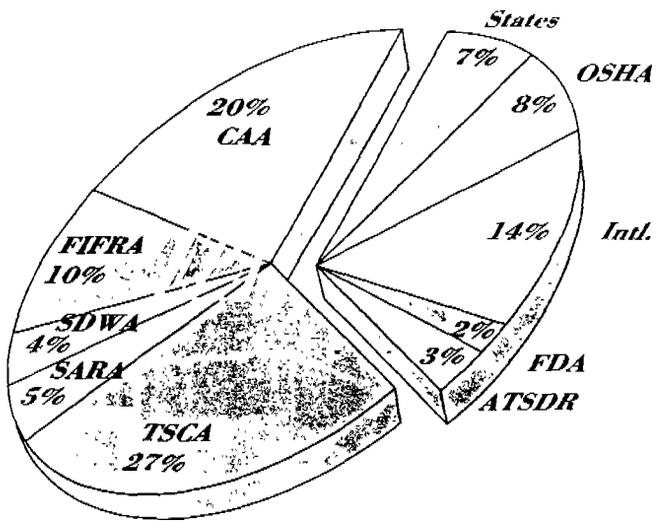


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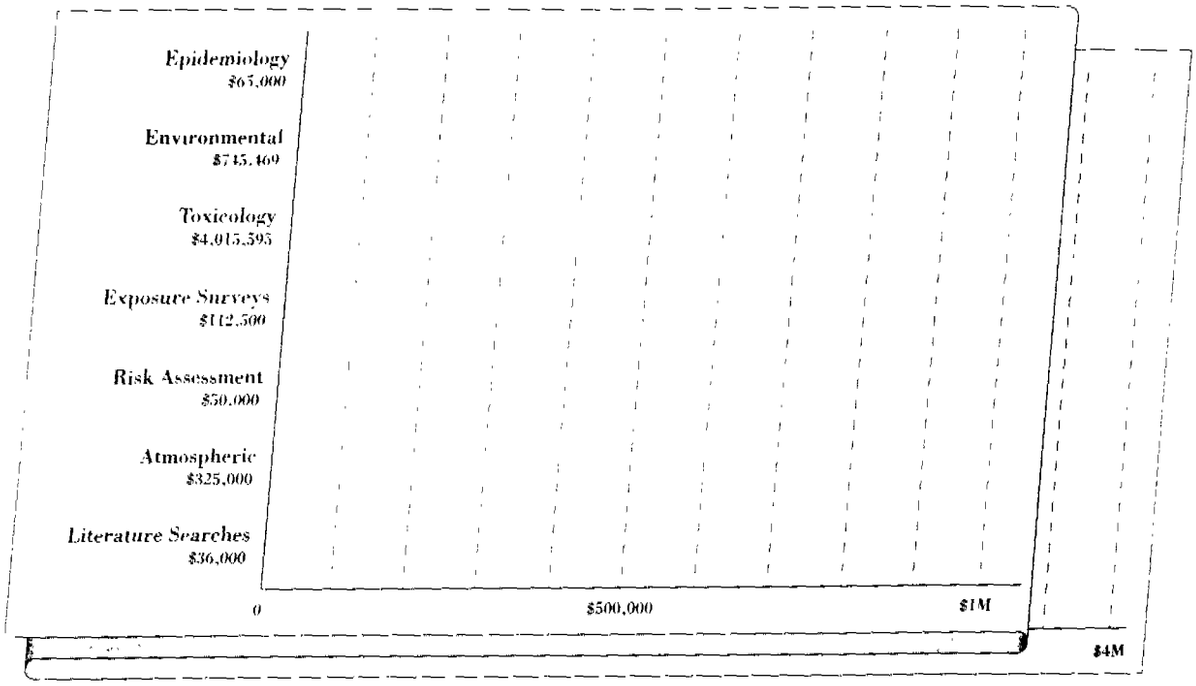
Figure 3
CHEMSTAR Panels and Councils

Summary of Research Expenditures



Left: The Phosgene Panel celebrates 20 years of clinical and safety research.

Right: Chairman W. E. Irby of Miles (c.) receives award from CHEMSTAR Division Director Dr. Langley Spurlock commemorating the Panel's 20th Anniversary.

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Forty-five CHEMSTAR Panels and Councils sponsored some form of research. The trend this year continues toward fewer, but larger, projects. The CHEMSTAR Division currently manages 142 research contracts for the Panels and Councils. The combined commitment of these contracts is $15 million. This year, $6 million of that commitment was spent.

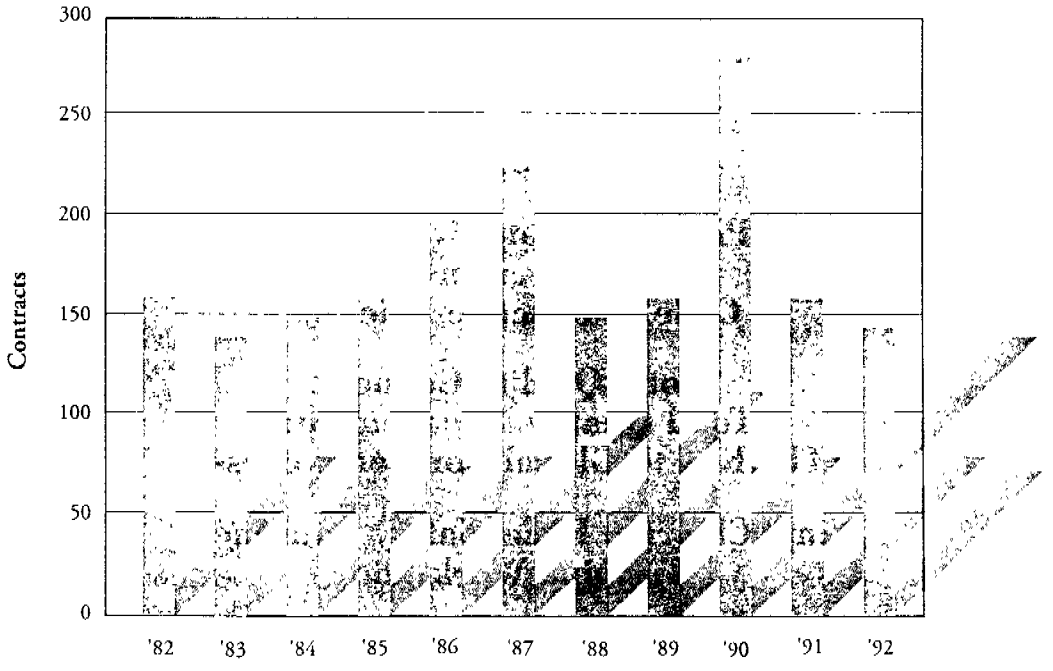
As in the recent past, health effects studies were a major focus. Toxicological research involved subchronic/chronic, mutagenicity, reproductive and developmental effects, oncogenicity and pharmacokinetic studies. Direct effects on humans were investigated by some panels through epidemiology. Exposure surveys and risk assessment were other forms of research undertaken by CHEMSTAR Panels. Atmospheric and environmental studies continued this year with increases in the atmospheric area, reflecting greater interest in air regulations, in particular.

Testing required under TSCA Section 4 continued for 24 CHEMSTAR Panels. Mainly, the tests are large-scale efforts lasting several years. The testing schemes include many decision points where EPA and industry scientists must interpret data and decide on next steps.

As in the past, some Panels undertook studies because of questions raised by research findings rather than direct regulatory concerns. This "proactive" research continues to be a significant part of CHEMSTAR Panels' and Councils' scientific efforts.

Figure 4
CHEMSTAR Division

Summary of Contracts Managed



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The Phenol Panel and CMA staff at the annual Phenol Safety Awards Ceremony.

CHEMSTAR Division

Education Forums

Crystalline Silica Panel
Review of Analytical Methods

Hydrogen Fluoride Panel
Safety Seminar

Petroleum Additives Panel
Product Approval
Code of Practice Briefing

Total Quality Council
Total Quality Management:
The Key to Global Competitiveness

Vinyl Chloride Panel Safety Awareness
Training Workshop

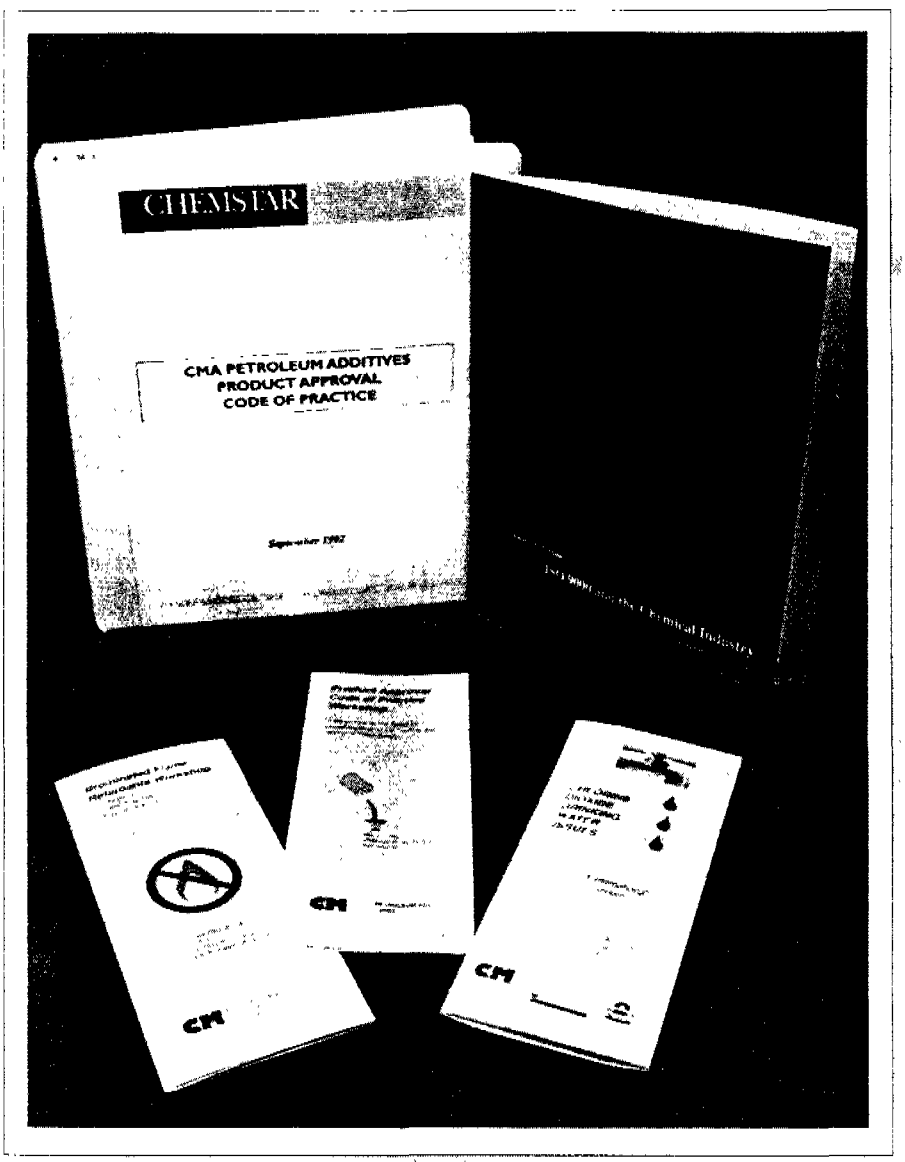
SL 068067

During the year, six CHEMSTAR Panels and Councils sponsored a variety of workshops and symposia. The groups held these forums to educate member company personnel, government regulators and the scientific and technical community about a variety of health, safety and environmental issues.

Nineteen Panels and Councils produced communications materials. These materials included press releases, white papers, scientific and technical journal articles and book chapters all aimed at promoting better understanding of issues important to member companies.

Eleven Panels and Councils engaged in evaluation-related activities. These efforts included facilitating data collection by individual companies and non-proprietary information sharing on company practices in safety and operations areas.

Only one Panel was involved in litigation efforts this year. Over the years, Panel involvement ranged from status as principals in lawsuits to filing of *amicus* briefs in lawsuits involving other principals.



Education, Communication and Evaluation products of the Petroleum Additives Panel, Total Quality Council, Brominated Flame Retardants Panel and Chlorine Dioxide Panel.

Above: TQC Chairman Ralph Taylor (c.) presents former Chairman A. Dick Dabney (l.) with appreciation award while CHEMSTAR Division Director Dr. Langley Spurlock looks on.

Left, Below, and Bottom: Members of the TQC review the Criteria for Continuous Improvement.

SL 068069

CMA has approved six CHEMSTAR Business Councils. These councils address data-gathering, research, program and advocacy activities in those designated business sectors or business function areas that are part of, or significant to, chemical manufacturing interests. During 1991-92, one new Council was organized — the Partnership for Plastics Progress. The other five Councils — the Total Quality Council, Chemical Distributors Council, Carrier Assessment Council, Atmospheric Research Council, and Laboratory and Research Chemicals Council — have continued operations successfully. Several of these Councils have completed or made significant progress on major projects for the industry.

Atmospheric Research

AO R80 E5 C10 E5 LO

Chartered:
1991

Task Groups:
Management
Science

Chairman:
W. Ross Stevens
DuPont

Council Manager:
Elizabeth Festa
Watson

The Council met its membership goal of twelve members for fiscal year 1991-92. This ensures funding of the planned research program. The Science Task Group initiated its first major research and communication efforts. A project was funded to develop qualitative criteria for CMA members to use in screening the materials emitted to the air by their companies. The Science Task Group then laid plans for a workshop to address findings of the completed project. The Council also cosponsored an international workshop on the measurement of OH and HO_2 radicals in the troposphere.

The Council formed to address issues concerning the impact of chemical industry emissions on regional and global atmospheric change. Activities include: identifying and resolving scientific uncertainties about effects of increased concentrations of chemicals in the atmosphere; obtaining research data that will assist in developing chemical industry positions on such issues as Clean Air Act implementation and global climate change; and provide a scientific foundation for the industry's position in the debates on a global effort to control greenhouse gases.

The Council will host a workshop in August on "Understanding Global Climate Concerns Within the Chemical Industry." The workshop will provide a broad overview of the climate issue followed by a presentation of the techniques that companies can apply in preliminary assessments of their chemical emissions and volatile products. The presentation will be based upon the funded research project. The Council will concentrate on meeting its other research goals.

Carrier Assessment

AO RO EO CO E100 LO

Chartered:
1991

Task Groups:
Executive
Highway
Marine
Rail

Chairman:
Charles Verna
DuPont

Council Managers:
Jonathon Busch
Elizabeth Moran
Marian Stanley

The Council continued development of its highway carrier assessment program and initiated marine and rail carrier assessment programs. With respect to the highway carrier program, the Council collaborated with the American Trucking Associations and the National Tank Truck Carriers to develop assessment protocols (questionnaires and guidance manuals) that can be used to evaluate the safety and regulatory compliance of highway carriers. Ideas from both the Canadian and European CEFIC audit questionnaires were incorporated into the Council's highway protocols. The Council made plans to field-test the protocols on several highway carriers. The protocols are designed to be used by independent, third-party auditors, by highway carriers in self-assessments, or by CMA companies needing an implementation aid to help meet the carrier safety provisions of the Distribution Code of Management Practices. The Council continued to explore options for funding third-party audits of highway carriers.

In the other modes, initial efforts focused on development of marine and rail assessment protocols. These efforts entailed reviewing existing industry audit questionnaires and communicating with CEFIC, the Association of American Railroads, and other groups.

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The Council formed to address carrier assessment issues of concern to the CMA membership. A major goal of the Council is to help interested CMA members meet the carrier safety provisions (3.1 and 3.2) of the Distribution Code of Management Practices. These provisions require that CMA members: establish a process for qualifying carriers of all modes and types; evaluate carriers for safety fitness and regulatory compliance; and provide feedback and suggestions for improvement to carriers on their safety performance. Activities to accomplish this goal include developing assessment protocols, facilitating development of a third-party audit system, and advocating an accreditation process for auditors.

The Council plans to increase its membership. Members will intensify efforts to implement the highway program and to complete development of marine and rail assessment protocols. The Council will continue efforts toward initiating third-party audits of highway carriers and establishing an accrediting process for auditors. The Council also will continue interactions with appropriate CMA groups and external organizations as necessary to accomplish its goals.

Chemical Distributors

A15 RO E15 C10 E60 LO

Chartered:
1990

Task Groups:
Legal Defense
Responsible Care®
Vapor Emissions

Chairman:
Thomas King
Ashland Chemical

Council Manager:
Langley Spurlock

The Council completed drafting a protocol for chemical distributor site assessment. This self-assessment questionnaire will be an implementation aid for the Responsible Care® Distribution Code. The Council also continued work on a proactive program of determining how member companies can improve control of vapor emissions from their facilities.

The Council formed to address issues of concern to chemical distributor members of CMA. Council activities include: collecting, evaluating and disseminating information on issues that affect chemical distribution; and advocating the interests of the chemical distributor sector. The Council maintains a strong interaction with the National Association of Chemical Distributors through that association's formal membership in the Council.

The Council plans to continue its current projects with strong focus on dissemination and use of the site-assessment protocol. In addition, the Council will develop an implementation aid for the Product Stewardship Code, and address the impacts of the HM 181 regulation and bar coding technology on chemical distributors.

Laboratory and Research Chemicals

A100 RO E0 C0 E0 LO

Chartered:
1991

Task Groups:
None

Chairman:
Harris Lehrer
Spectrum Chemical Manufacturing Corp.

Council Manager:
Elizabeth Moran

The Council began work on two priority issues: developing an amendment to the ANSI standard for labelling small packages; and developing and/or maintaining small quantity exemptions to state drug precursor regulations.

The Council formed to address issues unique to the laboratory and research chemicals industry. Council focuses are: commenting on regulatory and legislative proposals affecting the industry; advocating the interests of the industry before domestic and international organizations and government agencies; developing protocols and contracting for research; and, developing and sponsoring educational programs to implement objectives of the Council.

The Council will develop coordinated efforts with CMA committees and task groups that address advocacy issues of interest to laboratory and research chemicals manufacturers. In addition, the Council will seek to increase its membership.

SL 068071

Partnership for Plastics Progress

A20 R30 E10 C30 E10 L0

Chartered: 1991

Task Groups: Board Committees-
Program
Finance and Membership
Industry Partnerships

Coordinating Groups-
Outreach Task Force
Advocacy Task Force
Product Stewardship Task Force

Board Chairman:
J. Roger Hirl
Occidental Chemical Corp.

Board Staff Executive:
Charles Van Vlack

The Partnership was formed to provide policy guidance, strategic direction and resources to the coordinated plastic industry's efforts designed to enhance the public's perception and acceptance of plastics materials. To accomplish this, the Partnership seeks to: 1) improve the environmental, health and safety performance of plastics through product stewardship programs; 2) advocate the interests of the plastics industry with various government entities; 3) broaden the participation of the plastics industry in outreach and advocacy efforts; and 4) educate and expand dialogue with various publics.

Recognizing that the public's concerns reach across the entire spectrum of plastic industries, the Partnership has created and manages a broad-based public outreach program designed to communicate the performance and environmental benefits of all plastics products.

The Partnership fosters enhanced cooperation among existing plastic industry groups and activities, providing program support and senior executive direction to achieve a more effective response. Recognizing the importance of the grassroots influence of downstream industry participation in its efforts, the Partnership operates as a joint initiative with the Society of the Plastics Industry (which manages the Coordinating Group and its Task Forces) and works closely with all other plastic industry groups.

The Partnership encourages coordinated efforts among all existing public outreach and other plastic industry activities, such as recycling, energy reclamation, government affairs and public relations, with the objective of harmonizing these into an integrated effort of interest to all segments of the industry.

The activities of the Partnership are directed by the Partnership Board composed of senior executives from each of the participating companies. The development and coordination of specific programs is managed by the Partnership Coordinating Group, appointed by the Partnership Board and composed of the most senior plastics business managers or other senior company representatives nominated by Partnership member companies.

During the next year, the Partnership plans to: develop, advocate and implement acceptable solutions for managing plastics in our environment, including achieving a voluntary 25% recycling goal and other elements of an integrated solid waste management system; redirect negative legislation/regulation toward plastics products to more acceptable proposals; halt the ongoing slide in the public opinion about plastics products; and mobilize the broad plastics industry in all of these efforts.

Total Quality

A25 R0 E15 C10 E50 L0

Chartered: 1990

Task Groups:
Education
Governmental Affairs
Membership
Publicity
Supplier Assessment

Chairman:
Dick Dabney, III
ICI Americas Inc.

Council Manager:
Langley Spurlock

A need to conduct supplier quality system audits more efficiently led the Council to develop the "Criteria for Continuous Improvement," a self-assessment document encompassing the basic questions common to all quality system audits. Representatives of other industries related to the chemical industry provided input toward the effort. The "Criteria" will be released in Fall 1992. In keeping with its goal to spread the message of quality management throughout the industry, the Council sponsored a session on the impact of Total Quality Management on global competitiveness at the CMA Chemical Industry Conference in November. As another part of spreading quality management within the industry, the Council established a Study Group whose members serve as advisors to CMA as it institutes its Quality Improvement Process. The Council continued to study the impact of European requirements for certification of corporate quality systems under ISO 9000 standards. The Council intensified its efforts to aid development of a U.S. program for ISO 9000 certification and accreditation of certifiers that is acceptable outside the U.S. The Council started a project to demonstrate the value of using TQM tools to achieve Responsible

Care" goals by using the Process Safety Code as a pilot.

The Council formed to address quality management issues of concern to the chemical industry. Activities include: integrating quality concepts within the chemical and related industries; advocating the interests of the chemical industry before domestic and international quality standard-setting organizations and related government agencies; and encouraging the development of educational and training programs on quality management.

The Council will intensify efforts to establish itself as an active player in the U.S. voluntary standards system and develop more effective ways to inform the chemical industry about the value of using Total Quality Management principles to improve global competitiveness. In addition, the Council will continue to promote the use of TQM tools to achieve industry initiatives such as Responsible Care". Members of the CMA Study Group will continue to advise CMA management during the next phases in development of the Association's quality improvement process.

CHEMSTAR Councils Financial Status

For the Twelve Months Ended May 31, 1992

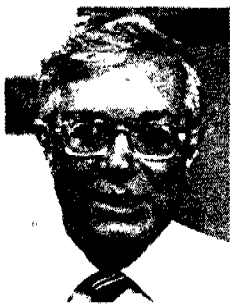
	CHEMSTAR Councils	Balance June 1, 1991	Contribution Receipts	Interest Revenue	Expenditures	Balance May 31, 1992
1	Atmospheric Research	24,000	326,900	1,600	116,300	236,300
2	Carrier Assessment	52,200	227,600	2,400	174,200	108,000
3	Chemical Distributors	21,500	24,000	1,000	36,200	10,300
4	Laboratory & Research Chemicals	0	50,000	600	25,500	25,100
5	Partnership for Plastics Progress	0	14,139,700	109,100	9,617,800	4,631,000
6	Total Quality	72,800	162,800	4,800	144,800	95,600
9		170,500	14,931,000	119,500	10,114,800	5,106,300

SL 068073

During 1991-92, six new panels were requested and approved. Manufacturers and users of two individual chemicals — Ethylenebis-(stearamide), and Terephthalic Acid — and four chemical categories — Aryl Phosphates, α-Olefins, Olefins, and Tris(chloroalkyl)phosphate — organized. Reasons for organizing range from a need to respond to pending or existing regulations to a proactive desire to promote safety, customer education, emergency response, and better product evaluations. All six panels are now fully organized and proceeding toward their initial objectives.

Aryl Phosphates

AO R80 E5 C15 E5 LO



Chartered: 1991

Task Group: Toxicology Research

Chairman: Roy Roseberry FMC Corporation

Panel Manager: Kathleen Roberts

The manufacturers of aryl phosphate esters chartered the Panel at CMA in November. Originally, the manufacturers were part of the *ad hoc* Aryl Phosphate Esters Committee, which formed to respond to inclusion of the chemical category in the Second Report of the Interagency Testing Committee in 1978. The Committee provided comments on the ITC report and the 1983 advance notice of proposed rulemaking by EPA under TSCA Section 4. When EPA announced its intention to initiate rulemaking under Section 4 in 1991, the members dishanded the Committee and reformed as a CHEMSTAR panel.

The Panel is developing comments on the notice of proposed rulemaking for aryl phosphate base stocks issued by EPA under TSCA Section 4 in January. In addition, although the *ad hoc* committee did not pursue a consent agreement with EPA, the Panel may attempt to negotiate a test rule with Agency officials after the comments are submitted.

Future Panel activities will include sponsoring the research ultimately required by EPA under Section 4 and responding to other regulatory concerns.

Ethylenebis(stearamide)

AO R100 E0 C0 E0 LO

Chartered: 1992

Task Groups: None

Chairman: Alan Kushins Lonza Inc.

Panel Manager: Cecilia Spearing

The Panel formed in January to address the OECD High Production Volume Existing Chemicals Voluntary Testing Program. Sixty-two chemicals were assigned to Phase 3 of the Program. One of these is N,N'-1,2-ethanediylbisoctadecanamide, also known as N,N'-ethylenebis(stearamide).

Panel member companies have volunteered to collect, generate and evaluate information required to complete Screening Information Data Set (SIDS) dossiers for evaluating environmental and health toxicity potentials of N,N'-ethylenebis(stearamide). The Panel will conduct testing as appropriate.

-Olefins

AO R100 E0 C0 E0 LO

Chartered: 1991

Task Groups: None

Chairman: James Cupps Chevron Chemical Company

Panel Manager: Cecilia Spearing

The second phase of the OECD High Production Volume Existing Chemicals Voluntary Testing Program, comprising 62 chemicals was initiated in September. Among the chemicals are the α-olefins (1-alkenes).

Producing companies formed a Panel in December to collect, generate and evaluate information required to complete Screening Information Data Sets for several α-olefins. The SIDS information will he used for evaluating environmental and health toxicity potentials of 1-hexene, 1-octene, 1-dodecene, 1-tetradecene, and, possibly, 1-decene. The Panel will conduct testing as appropriate.

Olefins

A100 RO EO CO EO LO

Chartered:
1992

Task Groups:
None

Chairman:
Norman Morrow
Exxon Chemical Americas

Panel Manager:
Elizabeth Moran

The producers of ethylene and propylene held an exploratory meeting in November to discuss the need for a Panel to address concerns of the C_2-C_4 olefins industry. This industry is affected by many environmental regulations on benzene and butadiene because these by-products are inadvertently generated in processes involving production of olefins. Of particular concern was regulation of olefins plants under the Clean Air Act Amendments. Olefins plants are intermediate between petroleum refining and traditional chemical synthesis facilities in their operations and, therefore, should be regulated separately.

The producers formed a Panel in November focused on advocacy for environmental regulations from an engineering viewpoint. The Panel already has made progress in a preliminary agreement with EPA to designate olefin production as a separate source category under the Clean Air Act. The source is excluded from regulation under the Hazardous Organic NESHAP due to be proposed in September 1992. The Panel also has held a workshop on fugitive emissions control practices and is planning a fugitive emissions benchmarking survey for the industry.

Tris(chloroalkyl)phosphates

A100 RO EO CO EO LO

Chartered:
1992

Task Groups:
None

Chairman:
Edwin Bisinger
Akzo Chemicals Inc.

Panel Manager:
Cecilia Spearing

Among the 62 chemicals assigned to Phase 3 of the OECD High Production Volume Existing Chemicals Voluntary Testing Program is tris(1-chloro-2-propyl)phosphate (TCIP). In December, manufacturers of TCIP formed the Panel to collect, generate and evaluate information required to complete a Screening Information Data Set dossier for evaluating environmental and health toxicity potentials of the chemical.

In another action, TCIP along with tris(2-chloroethyl)phosphate, tris(1,3 dichloro-2-propyl)phosphate, tris(2-chloro-1-propyl)phosphate, and tetrakis(2-chloroethyl)ethylene diphosphate had been "Recommended with Intent-to-Designate" in the 23rd Report of the ITC to the Administrator of EPA under TSCA Section 4. The members of the Panel were alerted that the ITC was working on a designation of these five chemicals. As a result of conversations with the ITC and EPA, the 30th Report, issued in May, deferred designations on these chemicals until November 1992; however, four additional chloroalkylphosphates were added to the "recommended" list. Should the ITC designate the five chloroalkylphosphates as stated, EPA will have one year to initiate rulemaking or explain in the *Federal Register* its reasons for not doing so. Member companies will address the designations with EPA when they occur.

Terephthalates

A100 RO EO CO EO LO

Chartered:
1990

Task Groups:
None

Chairman:
Edward Miller
Eastman Chemical Company

Panel Manager:
Elizabeth Moran

In 1990, EPA published a proposal to delist terephthalic acid from the Emergency Planning Community Right-to-Know Act but made the delisting contingent on results of testing that would be required under TSCA Section 4. The TPA producers formed a task group under the Trimellitate Esters Panel and convinced EPA to delist TPA immediately. However EPA included TPA in the TSCA Section 4 reproductive and developmental effects endpoint test rule. Subsequently, in 1991, the ITC designated dimethyl terephthalate (DMT) for test rule development under Section 4. The Task Group decided to form a Panel to address TSCA issues on the two chemicals.

The Panel has commented on the endpoint test rule on TPA. The final rule is expected in late 1992. The Panel will comment on EPA's response to the ITC about DMT which is expected in early 1993.

SL 068075

Sixty-four CHEMSTAR Panels are now officially approved by CMA.

CHEMSTAR membership rosters during the year included 220 companies and 21 associations. Among the company members, 75 were members of CMA and 30 were non-U.S. and non-Canadian. Participating companies and associations were represented on panels and task groups by over 900 persons with professional skills ranging from physical and biological sciences, through engineering and industrial hygiene to legal and business areas.

Acetone

A100 RO EO CO EO LO

Chartered: 1991

Task Group: Toxicology

Chairman: James Santory Aristech Chemical Corporation

Panel Manager: Barbara Francis

The Panel submitted comments to EPA in 1991 on the proposed Multi-substance Rule (endpoint rule) under TSCA Section 4 for the neurotoxicity testing of acetone. The Panel noted that existing data on acetone should provide sufficient support to exclude acetone from the proposed test rule. In addition, the Panel submitted comments on the 28th Interagency Testing Committee report in which acetone was "designated" for reproductive effects testing. The Panel noted that several important studies were not considered by the ITC during its review of acetone. In response to EPA's proposed Hazardous Waste Identification Rule, the Panel submitted comments indicating that acetone should not be listed on the Appendix VIII list of hazardous constituents because the chemical causes only minimal toxicity at high doses.

The Panel is cofunding a two-year research program at the University of California, Riverside investigating the effects of volatile organic emissions on photochemical ozone formation. Cosponsors include the Coordinating Research Council, the California Air Resources Board, the South Coast Air Quality Management District, and the National Aerosol Association. The outdoor chamber studies have been completed and the indoor chamber studies will begin later this year.

To assist solvent cement manufacturers with the accreditation of products that may occur in potable water, the Panel submitted information to the National Sanitation Foundation. Efforts to have acetone approved by NSF are continuing.

The Acetone Task Group formed under the Ketones Panel in 1990 to address regulatory concerns of manufacturers, processors, and users. Task Group members decided to form a separate Panel because of the complexity and diversity of acetone issues.

The Panel will continue to monitor European regulatory issues and explore ways to formalize technical liaison and information sharing activities. The Panel also will continue to address several Clean Air Act issues.

Alkanolamines

A33 R67 EO CO EO LO

Chartered: 1982

Task Group: Toxicology Research

Chairman: Susan Hearn Texaco Chemical Company

Panel Manager: Jonathon Busch

The Panel completed voluntary studies evaluating the dermal developmental toxicity of monoethanolamine (MEA) and diethanolamine (DEA) in rats. The studies were initiated to assess the dermal developmental toxicity of MEA and DEA in rabbits, and to evaluate the *in vivo* and *in vitro* dermal absorption of both chemicals. The Panel submitted comments to the American Conference of Governmental Industrial Hygienists on its newly proposed carcinogen classification scheme. The Panel also submitted comments and gave a presentation to ACGIH on the health effects of triethanolamine (TEA). The Panel was successful in convincing ACGIH to raise a proposed TLV-TWA from 3.1 mg/m^3 to 5 mg/m^3. Panel members gave a presentation at the American Industrial Hygiene Conference describing the overall approach and scientific basis used by the Panel in developing the alternative TLV for TEA. The Panel also commented on how ACGIH can improve its process of reviewing chemicals.

The Panel formed to address toxicology issues of alkanolamines in response

to an initial concern raised by a limited Japanese study implicating TEA as a possible carcinogen in mice. However, results of subsequent studies with rats and mice have indicated that TEA is noncarcinogenic.

The Panel plans to: continue voluntary research activities; submit completed research studies to NTP, publish research results; submit a petition to EPA to establish a Reportable Quantity for DEA; clarify apparent discrepancies in reported MEA flash-point values; monitor regulatory developments; and continue responding to influential organizations on toxicology-related issues.

Alkylphenols & Ethoxylates

A65 R30 E3 C1 E1 L0

Chartered: 1987

Task Groups: Communications International Toxicology

Chairman: Richard Bennett Texaco Chemical Company

Panel Manager: Robert Romano

The Panel has completed all but one environmental effects test on nonylphenol ethoxylates. In April, the Panel participated in an OECD-sponsored Risk Reduction Workshop hosted by the Swedish EPA. The Panel held a facilitated planning session in which communication and research needs were identified as further priorities. The Panel continued to work with the State of North Carolina on APE in waste water treatability issues.

The Panel formed to determine the health and environmental effects of alkylphenols and ethoxylates in manufacture and use. Initial efforts focused on responding to EPA concerns about the chemical fate and environmental effects of nonylphenol. The Panel maintains liaison with the Soap and Detergent Association on scientific and regulatory issues. Membership is open to manufacturers, users, and formulators of alkylphenols and ethoxylates.

The Panel will continue to educate the U.S. regulatory community on the results of Panel research. A risk assessment of APE's will be performed by the Panel by early 1993. The Panel also will continue to work on APE issues with the Swedish EPA and agencies of other interested countries. Biodegredation and treatability studies will be investigated by the Panel in order to assist North Carolina and other states in assessing potential risks of these chemicals to the environment. The Panel will continue to identify research and communication needs. In 1993, the Panel will develop an information package for distribution at three planned workshops.

Benzene

A5 R95 E0 C0 E0 L0

Chartered: 1976

Task Group: Toxicology Research

Chairman: Roger Daniel The Dow Chemical Company

Panel Manager: Carol Stack

The Panel continued support of a research program on benzene-induced leukemogenesis in cooperation with the American Petroleum Institute. The two-phase program investigates the effect of benzene and its metabolites on hematopoiesis in the mouse and man.

Since its formation, the Panel has pursued an active research and advocacy program. Responding to a NIOSH occupational study linking benzene exposure to leukemia, the Panel sponsored an industry epidemiology study in 1983. Also, in cooperation with API, the Panel established a research program investigating subchronic toxicity, metabolism and reproductive effects.

The Panel has completed a long-term research and advocacy program, and is in the process of phasing out activities. The Panel will terminate at the end of 1992.

SL 068077

Biocides

Chartered:
1986

Task Groups:
Antimicrobial Exposure Assessment
Arsenic Acid
Executive
Legislative
Mercury Compounds
Regulatory
Scientific

Chairman:
Claude Wolf
Nalco Chemical Company

Panel Manager:
Has Shah

In March, the Panel responded to an invitation by the Subcommittee on Department Operations, Research and Foreign Agriculture of the House Committee on Agriculture to present its views on the Pesticide Safety Improvement Act of 1991. The Panel also submitted written testimony in March to the Subcommittee on International Economic Policy and Trade of the House Foreign Affairs Committee. The testimony focused on H.R. 2083, a bill that would ban the export of pesticides that are unregistered or that do not have food tolerances. The Panel explained the unduly severe impact of the legislation on non-food use biocides which do not have tolerances. The bill is still pending in Congress.

Also in March, the Panel began addressing legislative activities related to reauthorization of RCRA. Several toxics use reduction amendments were introduced which the Panel actively opposed.

These amendments would have lead to the eventual discontinuation of organochloride production. Panel efforts were valuable in helping to defeat these measures.

In May, company representatives met with members of Congress and their staffs to discuss pesticide legislative issues of interest to the biocides industry. The representatives explained the nature of the biocides industry and pointed out the distinctive properties of antimicrobials. Representatives also presented Panel views on FIFRA reauthorization, measures to restrict pesticide exports, federal and state preemption and local regulations, and fees for the registration and reregistration of pesticides.

The Panel continued its efforts to influence the implementation of registration and reregistration programs. Panel activities focused on: EPA's imposition of data requirements outside the scope of Part 158 requirements; the Agency's failure to review studies submitted in the last several years either voluntarily or in response to earlier data call-ins; difficulties in scheduling meetings with Agency staff to discuss data requirements; and, formulators' concerns that they can not afford extensive testing requirements and could be forced to cancel their registrations.

After reviewing the draft proposed regulations under the 1988 FIFRA Amendments, the Panel surveyed its members about the numbers and types of containers used annually. This information will help the Panel to comment on the proposed regulations when issued. In addition, the Panel prepared for communication with EPA a series of research papers on areas of potential conflict between proposals under FIFRA and existing regulatory schemes under RCRA, EPCRA, OSHA and the Department of Transportation.

The Panel made efforts to prevent the elimination of ceilings on individual company maintenance fees under FIFRA and also to prevent EPA from gaining authority to bill maintenance fees twice during calendar year 1992. Although individual fee ceilings were increased over their current levels, the Panel, in concert with other registrant groups, was able to obtain many legislative and policy concessions from EPA

In late 1991, California amended the Birth Defect Prevention Act, SB 950. Panel members met with CalEPA to address the Agency's continued acceptance of the tiered testing approach for antimicrobials. These meetings were particularly important because the amendments to SB 950 did not consider the tiered testing approach for antimicrobials previously developed by the U.S. EPA and the California Department of Food and Agriculture. As a result, CalEPA also will use the tiered approach for review of the second list of active ingredients subject to SB 950 in early 1992.

Many states are pursuing increased registration fees and other forms of revenue collection based on pesticides sales volume to generate funds to remediate contaminated groundwater. Because some of these activities have imposed unreasonable burdens on biocides manufacturers, the Panel began to monitor legislative activities in sixteen states and will add other states as the need arises.

The Arsenic Acid Task Force completed testing required under the Special Data Call-In issued by EPA in 1987 for aquatic, avian and developmental effects studies. The Task Force encouraged EPA to reconsider rejection of several

studies that are scientifically valid. The Task Force obtained acceptance of several previously rejected aquatic and avian studies and continues efforts to this end for developmental effects. In addition, the Task Force is awaiting EPA approval of protocols for additional data requirements.

The Antimicrobial Exposure Assessment Task Force continued to work with EPA to ensure that the Agency incorporated the results of the exposure assessment study in its reregistration review. The Task Force also worked with CalEPA on developing a system to permit reliance on the exposure assessment study to satisfy SB 950 data requirements. Panel representatives discussed the study with Agriculture Canada officials and urged them to use the study in developing a tiered testing scheme for antimicrobial registrations.

The Panel formed in 1986 to respond to the California Department of Food and Agriculture Data Call-In Notices on biocidal chemicals registered in the state. The DCIs required that registrants submit data on chronic toxicity, oncogenicity, reproductive effects, teratogenicity, mutagenicity, and neurotoxicity. The Panel since has focused on a variety of issues impacting the biocides industry as a whole, and various task groups have addressed issues surrounding specific biocides.

The Panel will continue to participate in the debate on maintenance fees and FIFRA Reauthorization. The issue of pesticide exports continues as an active issue in Congress. Since the Panel was able to convince legislators that restrictive export requirements should not be applied to biocides, the Panel will build on its Congressional support base to protect biocides from new export restrictions.

Several regulatory proposals from EPA are likely to be issued in late 1992 and in 1993. These include: the "Safer Pesticide Policy;" the revised export policy: revisions to the adverse effects reporting requirements; standards and procedures for recall, storage and disposal of cancelled and suspended pesticides; regulations covering container design, residue removal and secondary containment for bulk storage; revisions to Part 158 regulations establishing data requirements for pesticide registration; regulations for pesticide storage, disposal and transportation; and, a policy on advertising claims for pesticide products. The Panel will respond to each of these proposals to express biocide industry concerns and comments.

With the continuation of the expedited reregistration program, many recurring problems such as inappropriate data requirements; EPA failure to provide timely responses to waiver requests, deadline extension requests and corrections; and, unreasonable or unjustified study rejections have become evident. The Panel will meet with EPA officials to pursue these issues.

The Panel will continue to monitor state legislative and regulatory activities to prevent imposition of unreasonable fees on biocides.

The Panel will work with the CMA State Affairs Department in its efforts to defeat inappropriately restrictive initiatives.

SL 06807

Brominated Flame Retardants

A50 R50 EO CO EO LO

Chartered:
1990

Task Groups:
Analytical Chemistry
Executive
Toxicology Research
Users' Group

Chairman:
David McAllister
Great Lakes Chemical Corp.

Panel Manager:
Dee Kuhn

The Panel completed development of analytical protocols to determine levels of polybrominated dibenzodioxins and furans in commercial samples of eight brominated flame retardants under the TSCA Section 4 Dioxins and Furans Analytical Test Rule. After extensive negotiations, EPA approved seven of the protocols between November and February. Approval of the eighth protocol is anticipated this summer. Testing was begun by individual companies upon approval of the protocols for their products. Many final reports will be submitted to the Agency during the summer of 1992.

In September, the Panel held a workshop in Research Triangle Park, North Carolina, to provide the user community with an update on current regulatory and research activities. The topics included: Panel activities; U.S. and European regulatory and legislative status; analytical methods development; toxicology; and, workplace sampling. A similar workshop was held in April, in Bar Harbour, Florida, by invitation from the Institute for Interconnecting and Packaging Electronic Circuits.

In October, the Panel submitted comments on EPA's Proposed TSCA Section 4 Health and Environmental Effects Test Rule on Five Brominated Flame Retardants. The Agency proposed an unprecedented array of tests for health effects, environmental effects, and chemical fate without adequate justification for proposed testing. The Panel's comments were followed by oral comments presented at a public hearing in November. The Agency recognized the substantial nature of the proposed rule and assured the Panel that the comments would be considered when deciding how to proceed with the rule.

Also in October, the Panel filed comments on the Fourth Draft of OECD Cooperative Risk Reduction Activities for Brominated Flame Retardants. The Panel's comments emphasized existing toxicology data demonstrating that the uses of polybrominated biphenyl oxides and ethers, or of products containing them, do not present unreasonable risks to human health or the environment. In May, OECD issued the Fifth Draft Risk Reduction Activities and a report by a consultant, Pedro Arias, on the use and alternatives to brominated diphenyl oxide flame retardants. The Panel submitted comments on the Arias report and will review and comment on the Fifth Draft, if appropriate.

In February, the Panel completed brominated dioxin and furan analyses of human blood samples at Midwest Research Institute. The study was conducted on blood samples that were received from BASF, AG. The results of the study were consistent with those observed earlier by BASF. The final report was shared with BASF and U.S. regulatory agencies.

In May, the Panel made presentations at the Business Communications Company Conference on Flame Retardants in Stamford, Connecticut. These presentations were entitled: Analysis of Polybrominated Dibenzo-p-Dioxins and

SL 068080

Dibenzofurans: Toxicology of Brominated Flame Retardants: Brominated Diphenyl Oxides and TBBPA; and, Global Regulatory Status Regarding Brominated Flame Retardants.

Throughout the year, the Panel provided strategic and technical support to the CEFIC European Brominated Flame Retardant Industry Panel on the EC Directive on Brominated Diphenyl Ethers and the German Hazardous Substances Ordinance.

The Panel originally formed in 1985 under the auspices of the Fire Retardant Chemicals Association, and became a CHEMSTAR panel in 1990. The Panel formed to address the inclusion of brominated flame retardants in EPA's proposed analytical test rule on dioxins and furans, the publication of pyrolysis studies demonstrating that brominated dibenzodioxins and dibenzofurans may form from brominated diphenyl oxides, and the Interagency Testing Committee's recommendations for health and environmental effects testing of certain brominated flame retardants.

The Panel will hold a users workshop in the fall of 1992, and make additional presentations at Intertech Conference in September, the Fire Retardant Chemicals Association Meeting in October, and the Interflam Conference in March.

The Panel will submit comments on the Fifth Draft OECD Cooperative Risk Reduction Activities for Brominated Flame Retardants. In addition, the Panel will comment on the International Programme on Chemical Safety's Preliminary First Draft: Environmental Health Criteria for Brominated Diphenyl ethers. The Panel will continue to support the efforts of EBFRIP.

Member companies will complete their individually required testing under the TSCA Section 4 Dioxin and Furan Analytical Test Rule and submit reports to EPA. The Panel will monitor EPA activities in the TSCA Section 4 Health and Environmental Effects Test Rule, and will be responsive to EPA's need for additional information. The Panel also will respond to EPA's "open season" on negotiating testing agreements.

The Panel will evaluate the need for additional research and undertake projects as appropriate.

SL 068081

Butadiene

A60 R40 E0 C0 E0 L0

Chartered:
1984

Task Groups:
Toxicology
Research
Environmental
Industrial
Hygiene
Ethylene/
Propylene
OSHA Activities

Chairman:
Norman Morrow
Exxon Chemical
Americas

Panel Manager:
Elizabeth Moran

The Panel completed activities on the OSHA proposed rulemaking on butadiene by developing post-hearing evidence and comments. In the OSHA rulemaking process, the Panel and the major user association, the International Institute of Synthetic Rubber Producers, worked cooperatively. The Panel provided expertise on toxicology and risk assessment issues and IISRP provided expertise on epidemiology issues. The American Petroleum Institute contributed to the effort by participating in the OSHA rulemaking and by joining the Panel.

The Panel commented on a California Air Resources Board proposal to list butadiene as a toxic air contaminant. The Panel also was active with IARC in the review of the carcinogen classification for butadiene. In all cases, the Panel presented evidence that the regulatory agencies had overestimated the potential risk to humans by basing their risk assessments on a mouse bioassay conducted by the NTP rather than on rat bioassays and epidemiology studies in workers which do not show a consistent response. Due to the CMA and IISRP involvement, IARC did not classify butadiene as a known human carcinogen.

To provide further information on the potential risk to humans of butadiene exposure, the Panel continued its four-year, $1.5 million research program aimed at understanding the species differences in response to butadiene exposure. The program also will develop data that will support alternative risk assessment methodologies. The Panel met with EPA to discuss the program and will continue to monitor EPA's ongoing reassessment of the butadiene risk assessment.

The Panel completed its fugitive emissions study, collecting data that can be used by companies in estimating plant emissions more accurately. In additon, the Panel began testing 4-vinylcyclohexene under a TSCA Section 4 consent order and completed its workplace monitoring survey. The Panel commented to ACGIH on the proposal to lower the TLV for 4-VCH.

The Panel formed in the aftermath of EPA consideration of butadiene under TSCA Section 4(f). The Panel aimed to collect and evaluate information needed to assess safety, environmental, and health issues arising from production, storage, transportation, use, and disposal of butadiene. The Panel provided comments to the Agency on two risk assessments and worked with the Agency in assessing "short-term" releases of butadiene. EPA then referred butadiene to OSHA under TSCA Section 9(a), for development of a workplace standard.

The Panel will await the final rule for the OSHA workplace standard on butadiene which is expected in late 1993. The Panel also is following development of Clean Air Act Amendments and will comment appropriately. The Panel will continue its butadiene research activities and consent order testing of 4-VCH. In addition, the Panel will interact with IARC, EPA and ACGIH in evaluations of the cancer classification and safe exposure levels of butadiene.

SL 068082

Butylated Hydroxytoluene

A10O RO EO CO EO LO

Chartered:
1977

Task Groups:
None

Chairman:
Kim Hryniewicz
PMC Specialties Group

Panel Manager:
Dee Kuhn

The Panel continued cooperative efforts with the FDA and the European BHT Manufacturers Association through meetings and information exchange.

The Panel was organized to conduct the research and advocacy necessary to support the continued use of BHT in food additive applications. In 1978, the Panel filed comments in response to an FDA proposal for interim regulations requiring testing to resolve safety questions. To date, FDA has not issued an interim regulation. The Panel submitted a Citizen Petition in 1986 requesting that FDA issue a regulation recognizing a prior sanction for use of BHT. In 1991, the Panel submitted additional information that contained a review of studies previously submitted and information regarding the EBMA's Chronic Toxicity Study of BHT, *The Role of Hepatocellular Injury in the Chronic Toxicity of BHT*, again requested that FDA issue a regulation acknowledging the prior sanction status of BHT. To date, the FDA has made no decisions regarding the Petition.

The Panel will continue to cooperate with the FDA in its continuing evaluation of BHT and will maintain working relations with the EBMA through information exchange. The Panel plans to support an updated literature search of BHT, and when appropriate, will sponsor research related to food and food packaging uses of BHT.

Carbon Disulfide

A7O R3O EO CO EO LO

Chartered:
1991

Task Groups:
Risk Assessment
Toxicology Research
TSCA Testing

Chairman:
John Stewart
Courtaulds Fibers, Inc.

Panel Manager:
Susan Howe

The Panel addressed clean air issues, which included comments on emissions control options. Additionally, the Panel addressed a draft report designed to evaluate an acceptable ambient air concentration of carbon disulfide. The Risk Assessment Task Group discussed the environmental fate of carbon disulfide and carbonyl sulfide, and its relevance to facility emissions. The TSCA Testing Task Group initiated a voluntary study to provide a preliminary assessment of reproduction in female rats exposed to carbon disulfide via inhalation.

The Panel formed to interact with regulatory agencies and other appropriate organizations on pertinent safety, health, and environmental issues. The Panel first focused on submitting comments on the draft toxicological profile for carbon disulfide developed by the Agency for Toxic Substances and Disease Registry under SARA Section 110. The Panel also submitted comments and testimony when EPA proposed a TSCA Section 4 test rule for the testing of developmental and reproductive toxicity of carbon disulfide.

The Panel will continue to work with EPA on the proposed TSCA Section 4 test rule. The Panel plans to coordinate with ACGIH, which maintained carbon disulfide on its list of chemicals under study for 1992-93. The Risk Assessment Task Group will address environmental issues. The Panel also may initiate a program of information exchange among members about safety and handling issues in the workplace.

SL 068083

Chlorinated Pool Chemicals

A83 R0 E17 C0 E0 L0

Chartered:
1989

Task Groups:
Transportation
Hazard Assessment Research

Chairman:
Bruce Jacobsen
Olin Corporation

Panel Manager:
Kathleen Roberts

The Panel sponsored a research project to measure chloroform releases from swimming pools. The study measures ambient airborne chloroform concentrations associated with public swimming pools under various conditions in order to evaluate the indirect production of the chemical. The Transportation Task Group is finishing a bulletin for shippers of pool chemicals and personnel responsible for in-transit storage. The bulletin includes guidelines for transporting calcium hypochlorite and chlorinated isocyanurates and information on pertinent federal transportation regulations. In addition, the Panel continued to distribute its bulletin and videotape on proper procedures for storing and handling chlorinated pool chemicals.

The Panel formed to promote safety practices worldwide in the processing, packaging, warehousing, transportation, and use of chlorinated pool chemicals. Panel members include producers of calcium hypochlorite and chlorinated isocyanurates worldwide.

The Panel will investigate whether certain pool chemicals can be classified as "self-reactive" and if so, at what temperature. In addition, the Panel will continue tracking regulatory requirements affecting chlorinated pool chemicals.

Chlorine Dioxide

A45 R40 E10 C4 E1 L0

Chartered:
1988

Task Groups:
Communication
FIFRA
Office of Drinking Water

Chairman:
Douglas Simpson
Olin Corporation

Panel Manager:
Robert Romano

The Panel completed and audited a 90-day subchronic study on sodium chlorite in rats. The study completes all the Phase 1 requirements for EPA's FIFRA data call-in. The Panel also completed all testing required for FIFRA Phase III Reregistration. The Panel continued to work closely with the EPA Office of Drinking Water on the upcoming standards for chlorine dioxide and sodium chlorite. In May, the Panel held its second international symposium on chlorine dioxide. The symposium was co-sponsored by U.S. EPA and the American Water Works Association Research Foundation. The proceedings will be published by AWWARF in Fall 1992.

The Panel formed in anticipation of an EPA proposal to regulate chlorine dioxide under the Safe Drinking Water Act by 1993. In addition, the State of California contracted for a risk assessment on chlorine dioxide and sodium chlorite. The Panel aims to gather, review, generate, and disseminate information on chlorine dioxide and its precursors, sodium chlorite and sodium chlorate. The Panel monitors and interacts with regulatory agencies and fosters scientific communications. Primary focuses of the Panel are generation, applications, health effects, safety, and test methods of chlorine dioxide.

Panel representatives will continue to interact with EPA on FIFRA data call-ins and reregistration. The Panel will undertake additional testing which EPA may require under its FIFRA programs. The Panel will review and comment on EPA's Chlorine Dioxide Health Advisory Report which is the basis for the upcoming Drinking Water Standard. Interaction with EPA on its negotiated test rule approach for the Disinfection By-Product Rule which includes chlorine dioxide and sodium chlorite will be a major Panel focus through Spring 1993.

SL 068084

Chlorobenzenes

AO R100 EO CO EO LO

Chartered:
1974

Task Groups:
Toxicology Research
FIFRA Data Call-In
1,2,4-Trichlorobenzene

Chairman:
James Bryant
Standard Chlorine Chemical Co., Inc.

Panel Manager:
Carol Stack

The Panel continued to sponsor research to meet 1,2,4-trichlorobenzene (TCB) oncogenicity testing requirements under TSCA Section 4. The Panel also sponsored research to address a FIFRA Data Call-In on p-dichlorobenzene (PDCB).

The Panel formed to sponsor voluntary research on chlorobenzenes. The focus on research remains, but now the emphasis is on completing mandated research on health and environmental effects. The Panel continues to provide technical support for the advocacy activities of the Chlorobenzenes Producers Association, an affiliate of the Synthetic Organic Chemical Manufacturers Association.

The Panel's TSCA testing program will continue into June 1995, when the final reports on the TCB oncogenicity studies are submitted to EPA. Completion of testing requirements under the FIFRA Data Call-In on PDCB is anticipated at the end of 1992.

Cobalt

A100 RO EO CO EO LO

Chartered:
1989

Task Group:
Toxicology Research

Chairman:
Ted Potter
The Shepherd Chemical Company

Panel Manager:
Susan Howe

The Panel addressed environmental issues related to cobalt compounds. Panel members reviewed ATSDR's proposed research program under SARA Section 110, which no longer includes cobalt as a result of the Panel's successful comments to the Agency. Panel members also considered participation in the OECD Voluntary Testing Program. The members evaluated clean air and waste issues, especially in relation to the OECD waste proposals.

The Panel formed to interact with regulatory agencies and other appropriate organizations on cobalt safety, health, and environmental issues. The Panel first focused on the June 1990 IARC review of cobalt and cobalt compounds. Panel interaction with the Cobalt Development Institute successfully provided valuable information for use in the IARC review.

The Panel soon will interact with ACGIH which has proposed to lower the threshold limit value for cobalt and inorganic cobalt compounds in 1992-93. The Panel also will continue to address environmental and waste issues. The Panel is considering cosponsorship of a seminar on cobalt health and safety regulations and issues, in conjunction with the Cobalt Development Institute. The Panel plans to submit comments on the proposed addition of certain cobalt compounds to regulatory lists associated with implementation of California Proposition 65.

SL 068085

Cresols

A100 R0 E0 C0 E0 L0

Chartered: 1984

Task Group: Advocacy

Chairman: Kirby Boston Merichem Company

Panel Manager: Barbara Francis

In 1991, EPA considered the cresols TSCA Section 4 testing program in its RM1 (Risk Management) meeting process and decided not to undertake further action on the three isomers. The cresols were referred to OSHA and NIOSH for consideration of adequate worker protection.

The Panel formed in 1984 in response to the TSCA Section 4 test rule. Testing required under the test rule was completed in 1990. The Panel has worked with the EPA Chemical Testing Branch, Office of Solid Waste, and the National Toxicology Program to ensure that logical and scientifically sound testing programs are conducted on cresols.

The Advocacy Task Group will continue to monitor cresols regulatory issues and alert the Panel to needs for further activities.

Crystalline Silica

A60 R15 E5 C10 E10 L0

Chartered: 1989

Task Groups: Administrative Analytical Methods Health Effects Regulatory and Legal

Chairman: Joseph Shapiro Unimin Corporation

Panel Manager: Elizabeth Festa Watson

Membership in the Panel remained at over 50 members. The Panel assessed the ramifications of the National Toxicology Program's decision to list "respirable" crystalline silica in its Sixth Annual Report on Carcinogens as "reasonably anticipated to be a carcinogen." The Administrative Task Group focused on modifying its strategic plan and worked closely with the Health Effects Task Group to revise its scientific research objectives.

In November, the Analytical Methods Task Group hosted a workshop for members that previewed four state-of-the-art reviews of analytical methods used to detect and quantify crystalline silica in bulk samples. These reviews will be the basis for a Panel-sponsored international symposium scheduled for August 1992. The focus of the Symposium was expanded to include measurement of respirable crystalline silica. The AMTG also arranged to have both the reviews and the proceedings published in peer reviewed journals.

The Regulatory and Legal Task Group followed up on 1990 comments to OSHA on the Hazard Communication Standard by submitting comments for to MSHA on a similar standard. Chairman Shapiro also presented testimony at an MSHA hearing to reiterate the Panel's concerns about the unintended consequences of the automatic trigger provisions of the standard. The Panel continued to address this issue with OSHA officials also.

The Panel formed to address the 1987 International Agency for Research on Cancer listing of crystalline silica as a "probable" carcinogen. Classification as a probable carcinogen automatically requires firms to comply with OSHA Hazard Communication Standard cancer labelling requirements. The Panel began with nine members, dedicated to bringing together the silica industry to speak with a united voice on scientific, regulatory and analytical concerns stemming from the IARC classification.

Panel members will continue to express concern to agencies and the administration on the use of automatic triggers for labelling decisions. The Panel will follow closely efforts in California, Ohio and within EPA to: increase reporting and regulations based upon the IARC or NTP classification; and require risk assessments of crystalline silica. The Panel will continue efforts to expand the membership and increase financial resources to fund a focused review of the literature. In addition, the Panel will host the International Symposium on methods for detecting and analyzing crystalline silica content. The Panel also will follow MSHA's response to comments filed on permissible exposure limits for crystalline silica in the Agency's Air Contaminant Rule.

SL 068086

Cumene

A30 R70 EO CO EO LO

Chartered:
1985

Task Groups:
Health Effects
Environmental Effects

Chairman:
Kenneth Darmer
Shell Oil Company

Panel Manager:
Barbara Francis

The Panel recently completed a voluntary 90-day subchronic study to clarify effects noted in the first fourteen-week vapor inhalation study that was conducted as part of the cumene TSCA Section 4 test rule. The final report was submitted to the Agency in September. The research showed that cumene does not induce cataracts. This conclusion was confirmed further by a statistical evaluation of the data and a retrospective evaluation of historical data at the sponsoring laboratory.

In 1990, through the legal challenge of a test rule, the Panel sought definition of "substantial" exposure limits by which the Agency can require testing under TSCA Section 4(a)(1)(B). In 1990, the Court ruled that EPA did not justify the test rule for cumene because meaningful criteria for defining "substantial or significant" environmental release and human exposure had not been established. The Court remanded the test rule to EPA and directed the Agency to provide a rationale for its exposure findings.

In an attempt to clarify the definition of "substantial," EPA proposed the "B" finding policy in July. The Panel submitted comments to EPA noting that EPA did not give adequate consideratio to the extensive modelling and monitor ing data the Cumene Panel had submitted to the Court. The remand evidence indicated that cumene does not enter into the environment in substantial quantities, nor do cumene releases result in substantial human exposure. EPA is expected to publish the "B" policy in the near future.

The Panel formed as a result of the Interagency Testing Committee's designation of cumene for priority testing under TSCA Section 4. The Panel's objective is to collect information that will allow assessment of health and environmental effects arising from production, storage, use and disposal of cumene.

The Panel currently is preparing comments on EPA's proposed hazardous waste and identification rule. In addition, the Panel will continue to interact with EPA and other agencies on hazard and risk assessment issues.

Cyclohexane

A100 R0 EO CO EO LO

Chartered:
1985

Task Group:
Toxicology Research

Chairman:
Russell Cook
Phillips Chemical Company

Panel Manager:
Jonathon Busch

EPA action on a final TSCA Section 4 test rule is expected by Fall 1992. In preparation for the final test rule, the Panel reviewed bids from various laboratories to perform health effects research. The Panel informed EPA that it is interested in conducting the testing under a consent order agreement. The Panel also submitted comments to EPA indicating that the Agency has not justified its exposure findings for cyclohexane under TSCA 4(a)(1)(B).

Cyclohexane manufacturers initially formed the Panel to address the Interagency Testing Committee's "intent-to-designate" cyclohexane for priority testing under TSCA Section 4. A proposed test rule on cyclohexane was published by EPA in 1987.

The Panel plans to comment on EPA's final TSCA test rule and will sponsor required research as appropriate. The Panel also plans to monitor research on chemicals closely related to cyclohexane.

SL 068087

Dibenzofurans / Dibenzodioxins

A100 R0 E0 C0 E0 L0

Chartered: 1984

Task Groups: None

Chairman: Robert Kaley Monsanto Company

Panel Manager: Elizabeth Festa Watson

The Panel monitored the EPA scientific reassessement of dioxins. The Panel cooperated with the PCB Panel to file comments expressing serious concern over EPA's promotion of Toxicity Equivalency Factors and the impact of these factors if applied in regulatory frameworks, particularly at the state level. Chairman Kaley presented testimony based upon these comments at an EPA hearing in November.

The Panel formed when EDF and NWF filed a TSCA Section 21 Petition. In addressing the EPA response, the Panel commented to the Agency on proposed rules under TSCA Sections 4 and 8. Final rulemakings on the two sections require analyses of chemicals for the presence of dibenzofurans and dibenzodioxins as impurities and the reporting of production, processing, use, exposure, and disposal data.

The Panel will continue to monitor the dioxin issue and respond when appropriate.

Diisocyanates

A85 R15 E0 C0 E0 L0

Chartered: 1988

Task Groups: Isocyanates TSCA Testing
Maximum Achievable Control Technology
Toxicology Research
Transportation
TSCA Nomenclature

Chairman: James Chapman Miles Inc.

Panel Manager: Cecilia Spearing

The Panel continued to work with EPA to ensure that all necessary data is available to make informed decisions during implementation of Clean Air Act Title III. The Maximum Achievable Control Technology Task Group explored the effect of the proposed Hazardous Organic National Emissions Standards for Hazardous Air Pollutants (HON) on member companies' operating procedures. Following submission of Panel comments on the proposed Early Reduction Rule, EPA removed toluene diisocyanate (TDI) from the high pollutant risk list. The TSCA Nomenclature Task Group was convened to address what the dominant nomenclature for methylenediphenyl diisocyanate (MDI) and TDI products should be on inventory lists world-wide.

The Panel formed to develop and disseminate information on the safe handling of diisocyanates, including: TDI, MDI, hexamethylene diisocyanate and, methylenebis-dicyclohexyl diisocyanate. Monitoring impending regulations affecting the production or use of diisocyanates and developing responses as needed are also key Panel activities.

The Panel will continue to work with the State of California on implementation of Proposition 65. Work will continue between the Panel and several states as state air toxic regulations are developing. Emergency Response Preparedness Guidelines for MDI and TDI will be completed under the auspices of the Panel. The Panel will provide input during revision of the Department of Transportation's Emergency Response Guidebook. Efforts to delist MDI from EPA's high pollutant risk list under SARA 313 will continue. Conversations between the Panel and the Interagency Testing Committee to provide appropriate research information on the isocyanates will continue. The Panel will become an active participant in EPA's Risk Management-2 process for isocyanates. As a volunteer in Phase III of the OECD Existing Chemicals High Production Volume Voluntary Testing Program, the Panel will complete a Screening Information Data Set dossier on MDI. The Panel also will continue to interact and coordinate activities with the Society of the Plastics Industry, the Polyurethane Foam Association, and the International Isocyanate Institute.

SL 068088

Dinitrotoluenes

AO R100 EO CO EO LO

Chartered: 1989

Task Group: Toxicology

Chairman: Thomas Marriot Air Products and Chemicals, Inc.

Panel Manager: Barbara Francis

As part of a voluntary agreement with EPA and agencies of Germany, the Panel conducted a pharmacokinetics study. The results of this study were submitted to the various agencies in late 1991. The Panel member companies are awaiting the outcome of EPA's evaluation of the data.

The Panel formed to permit U.S. manufacturers to work with Bayer AG on a voluntary testing program. Representatives of the U.S. EPA and German agencies identified DNTs as possible subjects for testing by companies in both countries. The agencies' stated objectives were to promote sharing of the cost of research and to ensure the availability of adequate hazard data. The Panel member companies and Bayer AG agreed to undertake a pilot pharmacokinetics project in response to the agencies' request.

The Panel intends to interact with the German and U.S. agencies as results of the voluntary testing are assessed.

Ethylene Dibromide

AO RO EO CO EO LO

Chartered: 1982

Task Groups: None

Chairman: Vernon White Great Lakes Chemical Corporation

Panel Manager: Robert Romano

OSHA has not yet issued a final rule revising the federal Occupational Standard for ethylene dibromide. The Panel therefore had no need to meet this year.

The Panel formed to address the OSHA Standard with the goal of ensuring that reasonable regulations are adopted. Once the rule is issued, the panel will review the requirements and evaluate the effects on the industry.

Ethylene Dichloride

A100 RO EO CO EO LO

Chartered: 1974

Task Groups: None

Chairman: Vacant

Panel Manager: Kathleen Roberts

The Panel reconvened to discuss the inclusion of ethylene dichloride in EPA's risk management process.

The Panel originally formed to address federal and state agencies in all safety and health issues arising from the production, distribution, and use of EDC. Initially, the panel focused on evaluating scientific literature, identifying data gaps, and undertaking additional toxicological studies to improve the research data base. The Panel completed a voluntary testing program which included chronic inhalation, metabolism, and teratogenicity studies.

The Panel will continue to monitor EPA's assessment of ethylene dichloride in the RM process, as well as other agency activities, and provide input as needed.

SL 068089

Ethylene Glycol

A85 R15 E0 C0 E0 L0

Chartered:
1986

Task Groups:
Toxicology
Research

Chairman:
William Snellings
Union Carbide
Corporation

Panel Manager:
Kathleen Roberts

Because of a mandated cross-reference between CERCLA and the Clean Air Act, inclusion of ethylene glycol as a hazardous air pollutant under the 1990 Clean Air Act Amendments resulted in a CERCLA default Reportable Quantity value of one pound. In response, the Panel drafted a formal petition for the adjustment of the RQ to 5,000 pounds. The petition included a review of acute toxicity, chronic toxicity, carcinogenicity, aquatic toxicity, ignitability, reactivity, and biodegradation. To date, EPA has not responded to the petition, which was submitted in November. Other Panel activities included investigating a risk characterization project and tracking federal proposals affecting ethylene glycol products.

The Panel formed to augment the ethylene glycol toxicological data base. The Panel completed a voluntary testing program, focusing on developmental toxicity and pharmacokinetics research in mice and rats.

The Panel will continue to seek adjustment of the one-pound RQ. In addition, the Panel will compile the available toxicity data on ethylene glycol for inclusion in a white paper for both technical and non-technical personnel. This paper will be used to respond to concerns on federal, state, and local levels.

Ethylene Oxide

A70 R25 E4 C1 E0 L0

Chartered:
1981

Task Groups:
Industrial
Hygiene
Environmental
Epidemiology
Toxicology
Safety

Chairman:
Ronald Van
Mynen
Union Carbide
Corporation

Panel Manager:
Robert Romano

The Ethylene Oxide Industry Council and Chemical Industry Institute of Toxicology continued cofunding an EO pharmacokinetics physiological modeling study being conducted at CIIT. EOIC continued an epidemiology analysis because the epidemiology studies did not agree with the results of the animal studies. The Industrial Hygiene Task Group evaluated additional protective clothing materials for EO.

The Panel formed to evaluate the results of an animal study that may affect OSHA and EPA regulatory proceedings on EO. The EOIC addresses many regulatory and scientific activities in an effort to provide both agencies with enough information to make reasonable and scientifically sound decisions on regulatory controls.

The CIIT pharmacokinetics physiological modeling study will continue, into its second year. The epidemiology analysis will be completed by January 1993. The EOIC industry-wide fugitive emissions bagging study is complete and results will be made available to all members to aid in further quantifying EO emissions for SARA Section 313 reporting and risk assessment. "Information Exchange" workshops focusing on safety and handling of EO and EO toxicology issues are planned for 1993. This September the Panel will sponsor a workshop which will showcase the results of the Butadiene and Ethylene Oxide Fugitive Emission Field Study. A "How to" session on fugitive emissions is planned.

SL 068090

Fluoroalkenes

A8 R92 EO CO EO LO

Chartered:
1987

Task Groups:
Specific Chemical Producers
Specific Chemicals Toxicology

Chairman:
Sharron Laas
DuPont

Panel Manager:
Kathleen Roberts

The Panel submitted the results of a two-year, vinylidene fluoride oncogenicity study to EPA in December. The Panel was granted an extension until July 1992 to submit results of a vinyl fluoride study. The submission of this study will complete the $2 million TSCA Section 4 rule testing package, which is comprised of mutagenicity, subchronic toxicity, and oncogenicity studies on four fluoroalkene monomers—vinyl fluoride, vinylidene fluoride, hexafluoro-propene, and tetrafluoroethene.

Based on comments provided by the Panel at a Fluoroalkenes Public Program Review, EPA withdrew requirements for hexafluoropropene and vinyl fluoride heritable translocation assays, and for an oncogenicity study of HFP.

The manufacturers of fluoroalkene monomers originally formed an *ad hoc* coalition to address the ITC's 1980 designation of fluoroalkenes for priority consideration under TSCA Section 4. The coalition reorganized as a CMA panel when EPA issued the final test rule.

The Panel is awaiting notification from EPA to determine whether a mouse specific locus assay will be required for vinyl fluoride. The Panel will continue its dialogue with EPA on the results of the TSCA testing program, as well as other Agency activities.

Glycol Ethers

A40 R60 EO CO EO LO

Chartered:
1980

Task Group:
Toxicology Research

Chairman:
Richard Wise
Union Carbide Chemicals and Plastics Co., Inc.

Panel Manager:
Carol Stack

Panel research and advocacy activities continue to focus on ethylene-based glycol ethers. A voluntary research program on ethylene glycol butyl ether (EGBE) is in progress. The program includes *in vitro* hemolysis studies in rat and human red blood cells, and development of a physiologically-based pharmacokinetics model for risk assessment. The Panel completed a developmental neurotoxicity study on triethylene glycol mono-methyl ether required under a TSCA Section 4 test rule.

In October, the Panel filed a petition to delist five ethers from the category of glycol ethers listed as toxic air pollutants in the 1990 Clean Air Act amendments. The five are diethylene glycol monobutyl ether and its acetate, and three triethylene glycol ethers. EPA has not yet responded to the petition.

The Panel also petitioned EPA for adjustment of the CERCLA Reportable Quantity for certain glycol ethers. The petition gives justification for raising the RQs from one pound to 5,000 pounds following EPA's established guidelines. The Panel advocated an expeditious review of the petition and establishment of the appropriate RQs for these glycol ethers to relieve the regulatory burden of reporting under a one pound RQ.

Panel manufacturers of EGME and EGEE and their acetates are tracking regulatory developments within OSHA. OSHA plans to publish a Notice of Proposed Rulemaking to establish new workplace standards in Summer 1992. In April, OSHA published a NPRM which proposes Permissible Exposure Limits for workers in the maritime, agricultural, and construction industries. A PEL for EGBE in these industries was proposed. The Panelplans to comment on the proposal and participate in the OSHA hearings.

The Panel formed to develop an adequate toxicity data base on ethylene-based glycol ethers, provide information to users and government agencies on the safety of the chemicals, and promote scientifically sound regulatory action.

The Panel's voluntary testing will continue. The Panel is participating in Phase 3 of the OECD Voluntary Testing Program,, and will submit dossiers on the methyl and ethyl ethers of triethylene glycol to EPA in September 1992. A human sensitization study on EGBE will be initiated in Fall 1992. In addition, the Panel will pursue delisting efforts as they relate to the CAA, and will monitor state activities. The Panel also will take an active role in OSHA rulemaking.

SL 068091

Hexamethylene Diisocyanate

A100 RO EO CO EO LO

Chartered:
1988

Task Group:
Toxicology Research

Chairman:
Donald Lamb
Mobay Corporation

Panel Manager:
Kathleen Roberts

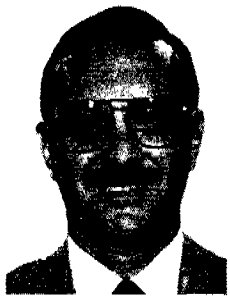
The Panel continues to wait for the final TSCA Section 4 test rule for HDI. Due to a Court directive requiring EPA to develop criteria to support exposure findings under TSCA Section 4(a)(1)(B), the Agency delayed the publication of the final HDI test rule. The Panel took advantage of EPA's reopening of the comment period for the proposed test rule in July and submitted additional comments on exposure potential. The Panel also has been tracking EPA's risk management process for diisocyantes.

The Panel formed to address the inclusion of HDI on the ITC priority list of chemicals for testing under TSCA Section 4. In the proposed TSCA test rule, EPA identified oncogenicity, mutagenicity, reproductive toxicity, developmental toxicity, neurotoxicity, comparative pharmacokinetics and hydrolysis testing.

As soon as EPA issues the final TSCA Section 4 test rule, the Panel will proceed with the required testing program. In addition, the Panel will continue to track the diisocyanate RM process at EPA.

Hydrazine

A50 R50 EO CO EO LO



Chartered:
1991

Task Group:
Toxicology Research

Chairman:
Dave Hackathorn
Mobay Corporation

Panel Manager:
Dee Kuhn

Panel activities have focused on cosponsoring an extensive research program with the Air Force, Navy, and NASA. The research will aid further understanding of the mechanism of hydrazine carcinogenesis and will be useful for evaluating the potential effects on humans from exposure to the chemical. The Panel continues to cooperate with the ACGIII TLV Committee in its work to set exposure limits for hydrazine.

The Panel formed in 1991 to support hydrazine-related product stewardship activities. It has reviewed and evaluated published and unpublished literature on the health effects of hydrazine in order to maintain a current, accurate point of reference for discussion of the safe use of hydrazine products.

The Panel will continue its research program, and will work with regulatory agencies and other concerned organizations in matters relating to safety and health issues concerning hydrazine.

SL 068092

Hydrogen Fluoride

A80 R5 E5 C5 E0 L5

Chartered:
1988

Task Groups:
Advocacy/
Communications
Management
Materials of
Construction
Medical &
Toxicology
Mutual Aid
Personal
Protective
Equipment
Storage Systems
Transportation

Chairman:
Carolyn Seringer
DuPont

Panel Manager:
Elizabeth Festa
Watson

Since the Panel agreed to include users and suppliers of raw materials as members and broadened the focus to include advocacy activities, it has more than tripled its membership. The newly formed Management Group and Advocacy/Communications Task Group have led the Panel's participation in EPA's program to prepare a study of the industry. The EPA report to Congress was an outcome of a provision of the Clean Air Act Amendments relating specifically to HF. The Panel also completed for submission to EPA an independent study of transportation incidents involving anhydrous HF. The Panel commented extensively on ATSDR's Draft Tox Profile on HF. Members of the Medical & Toxicology Task Group also worked with the CMA Health and Safety Committee to develop comments on ATSDR's draft protocols for emergency medical treatment of HF exposure.

The Panel formed to provide a forum for U.S. and Mexican producers and shippers to share information on safe in the manufacture, handling and transportation of, and emergency response procedures for, anhydrous hydrogen fluoride and hydrofluoric acid.

The Panel will continue to follow and participate in EPA's effort to prepare a final study of the industry due in November 1992. The Panel also will track a lawsuit filed against the California South Coast Air Quality Manangement District that banned specific uses of HF. The Task Groups will continue to focus on completion of their initial set of recommended guidelines for industry safety practices. Members of the Panel will continue to host an annual meeting and safety seminar.

Hydroquinone

AO RO E50 C50 E0 L0

Chartered:
1984

Task Group:
Toxicology
Research

Chairman:
Robert Brothers
Eastman Kodak
Company

Panel Manager:
Jonathon Busch

The Panel completed a testing program for hydroquinone under TSCA Section 4. All required data and reports were submitted to EPA and the Panel prepared a Research Summary Report outlining the findings and conclusions of the studies. If EPA accepts the results, the Panel will have achieved its research objectives. The Panel is waiting for a response from EPA.

The Toxicology Research Task Group published abstracts of Panel-sponsored research, and gave poster-presentations on the results at both the Society of Toxicology and Teratology Society meetings. The Panel also cooperated with the Nonprescription Drug Manufacturers Association and the Cosmetic, Toiletry, and Fragrance Association by providing these trade associations with summaries and final reports of the studies.

The Panel formed in response to a proposed TSCA Section 4 test rule published by EPA in 1984. Subsequen the Panel submitted extensive comm to the Agency and presented data at a rulemaking hearing. The Panel voluntarily sponsored a study to assess potential developmental effects from exposure to hydroquinone. The Panel also participated in the peer review of NTP's carcinogenicity studies on hydroquinone.

The Panel plans to publish the findings of its research program in appropriate scientific journals. IARC identified hydroquinone as a priority chemical for review in 1993. The Panel will ensure that its published research findings are available to IARC. The Panel also plans to monitor hydroquinone issues being considered by the European Community, OECD, Food and Drug Administration, Nonprescription Drug Manufacturers Association, and the Cosmetic Ingredient Review.

SL 068093

Isopropanol

A1 R99 E0 C0 E0 L0

Chartered:
1987

Task Group:
Toxicology Research

Chairman:
James Quance
Exxon Chemical Company

Panel Manager:
Cecilia Spearing

In compliance with a TSCA Section 4 test rule issued in 1989, the Panel is testing isopropanol for health effects. Testing requirements include: subchronic toxicity, reproductive toxicity, developmental toxicity and neurotoxicity, mutagenicity, pharmacokinetics, and oncogenicity. The developmental toxicity study was completed in 1990. The mutagenicity, pharmacokinetics and subchronic neurotoxicity studies were submitted to EPA in March 1991. The developmental neurotoxicity study was completed and submitted to EPA in September. Panel representatives gave a poster-presentation on the completed isopropanol research studies at the Annual Meeting of the Society of Toxicology in February 1992. A two-generation reproductive study was completed and submitted to EPA in May. A two-year oncogenicity study is in its second year. As a follow-up to the completed pharmacokinetics study, research to identify an unknown metabolite was completed. Additionally, the Panel actively worked with EPA to correct the TRI database for isopropanol.

The Panel formed to address health effects concerns about isopropanol raised by the ITC in its 19th Report to the EPA Administrator. The Panel's objective is to collect information that will aid in the assessment of health effects arising from production, storage, transportation, and use of isopropanol.

The Panel will continue to conduct studies required under the TSCA test rule as well as interact with EPA on interpretation and evaluation of the test results. Results of all completed studies will be published in peer-reviewed journals. The Panel is exploring the addition of a dermal exposure pharmacokinetic study as a human exposure paradigm for risk assessment using PB-PK modeling.

Ketones

A60 R40 E0 C0 E0 L0

Chartered:
1980

Task Group:
Toxicology Research

Chairman:
James Quance
Exxon Chemical Company

Panel Manager:
Barbara Francis

The Panel signed a consent agreement to conduct health effects testing of mesityl oxide. The testing is similar to that in the OECD SIDS program. A 1985 final test rule on mesityl oxide was challenged and remanded to EPA by the Fifth Circuit Court which directed EPA to reconsider worker exposure information and changes in uses of MO. EPA proposed withdrawal of the test rule when the consent agreement notification was published in the *Federal Register* in September. The Panel submitted two final reports to the Agency on mutagenicity testing. Results from the combined reproductive toxicity study will be submitted in the near future.

The Panel volunteered methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK) and MO for the OECD Voluntary Testing Program. MEK and MIBK dossiers were submitted to the Agency as part of Phase 2 and the dossier on MO, a Phase 3 chemical, will be submitted in Fall 1992. Also, the National Sanitation Foundation has evaluated data supplied by the Panel on MEK and has notified the Panel of its criterion to accredit this compound for use in substances that may occur in potable water.

The Panel formed to address EPA activities on MEK, MIBK, MO, and isophorone. Subsequently, the Panel included acetone in its focus. The Panel negotiated testing programs with the EPA to supplement the data base on MEK, MIBK and isophorone. In addition, the Panel was actively involved in discussions with the Agency on testing needs for MO.

The Panel will submit comments on EPA's proposed RCRA Hazardous Waste Identification Rule. The comments will suggest that calculation of health based levels for MEK, MIBK and isophorone should be based on more appropriate studies. The Panel also will continue to address such Clean Air Act Issues as Title 1 (Emissions from Consumer and Commercial Products) and Title 6 (Significant New Alternatives Program).

SL 068094

Metal Catalysts

A90 RO EO C10 EO LO

Chartered:
1984

Task Groups:
Environmental Regulations
Industrial Hygiene

Chairman:
Bill Masters
United Catalysts Inc.

Panel Manager:
Susan Howe

The Panel submitted comments and presented oral testimony to ACGIH on the proposal to lower the TLVs for all nickel compounds to 0.05 mg/m3. Industry commenters were again successful in persuading ACGIH to keep nickel in the "intend to change" category until June 1993. Panel members participated in the Nickel Users Environmental Conference co-sponsored by the Nickel Development Institute and the Nickel Producers Environmental Research Association. The Panel also successfully commented on the RCRA proposed rule for land disposal restrictions, with the Agency agreeing not to include vanadium compounds in Appendix VIII or in specific treatment standards.

The Panel formed to collect and evaluate information necessary to assess safety, environmental, and health issues concerning metal-containing catalysts used in industrial processes. The Panel originally focused on a research program to characterize the toxicity profiles of metal catalysts, with particular emphasis on nickel-containing materials. Over the last several years, Panel focus has changed with an increase in advocacy activities in the areas of industrial and environmental regulatory concerns.

The Panel will continue liaison with NiPERA, NiDI, ISRI, NAMF, the Chrome Coalition, and the European Catalysts Manufacturers Association. Regulatory issues that will be of prime importance to the Panel are pending regulations addressing many metals used in the production of metal-containing catalysts. These include the OECD proposals on waste, the Clean Air Act Amendments, as well as various actions under SARA and OSHA. The Panel will continue to track ACGIH actions also.

Methylenedianiline

A100 RO EO CO EO LO

Chartered:
1982

Task Groups:
Risk Assessment
Medical & Toxicology
Analytical & Industrial Hygiene

Chairman:
Roger Daniel
Dow Chemical USA

Panel Manager:
Elizabeth Moran

The Panel continued to encourage OSHA to expedite the proposed workplace standard for MDA.

The Panel formed in response to the ITC recommendation that 4,4'-methylenedianiline be considered for priority testing under TSCA Section 4. In 1983, EPA decided that no additional testing was necessary, but designated MDA as the first "significant risk" chemical under TSCA Section 4(f). Ultimately, in 1985, the Agency referred the chemical to OSHA under the authority of TSCA Section 9. The Panel participated in the first negotiation of a workplace standard for MDA under the Occupational Safety and Health Act.

The Panel is awaiting publication of the final rule for a workplace standard which is expected in 1992.

SL 068095

Méthyl Bromide

A50 R45 E0 C5 E0 L0

Chartered:
1990

Task Groups:
None

Chairman:
Franklin Handy
Great Lakes
Chemical
Corporation

Panel Manager:
Dee Kuhn

The Panel currently is working with the U.S. EPA and the California EPA to satisfy the pesticides reregistration and other data call-in requirements. The Panel is also working closely with these two agencies to evaluate exposure limits for methyl bromide. In cooperation with the Association of Methyl Bromide Industry Japan and the European Methyl Bromide Association, the Panel sponsored, "A Literature Survey of Atmospheric Methyl Bromide and Stratospheric Ozone," and "Methyl Bromide Production and Sales for the Years 1984-1990."

The consortium of producers was formed as an *ad hoc* group in 1982 to respond to an EPA Data Call-In. The group became a CHEMSTAR panel in 1990.

The Panel will continue to cooperate with federal and state regulatory agencies to address exposure issues, and to respond to data call-in requirements.

Naphthenates

A100 R0 E0 C0 E0 L0

Chartered:
1983

Task Groups:
None

Chairman:
Michael Scott
Mooney
Chemicals, Inc.

Panel Manager:
Has Shah

No new activities were undertaken by the Panel this year.

The Panel formed as a result of an ITC recommendation to EPA that calcium, cobalt, and lead naphthenates be considered for priority testing under TSCA Section 4. Subsequently, the Panel expanded its scope to address EPA concerns in the pesticides area.

The Panel will decide on a course of action when it receives the EPA evaluation of its dermal absorption study. The study was part of a voluntary testing program developed by the Panel and the Agency in lieu of a TSCA Section 4 test rule.

Nitrosamines

A65 R0 E0 C35 E0 L0

Chartered:
1990

Task Groups:
Risk Assessment
Analytical
Assessment
Formulation

Chairman:
Charles Green
Witco
Corporation

Panel Manager:
Susan Howe

The Panel authored a revision of the chapter on N-nitrosamines in "Patty's Industrial Hygiene and Toxicology." The Panel continued interactions with regulatory agencies by meeting with OSHA staff to discuss and alleviate concerns about potential exposures in the workplace. The Panel commented on Canadian and U.S. proposed regulations concerning various N-nitrosamines in drinking water.

The Panel formed to identify and address impending federal and international regulatory actions that potentially impact nitrosamines. Products of interest to member companies include: rubber additives, secondary amines, cosmetics components, soaps, detergents, and surfactants.

The Panel will continue interactions with regulatory agencies. Panel members will participate in a seminar on "The Chemistry of Nitrosamines and N-Nitroso Compounds," being sponsored by the American Chemical Society. The Risk Assessment Task Group will evaluate proposals to develop risk assessments for specific N-Nitrosamine-containing compounds. In conjunction with these activities, the Analytical Assessment Task Group will evaluate methods to detect N-Nitrosamines in various environmental media.

SL 068096

Oleylamine

A100 RO EO CO EO LO

Chartered:
1984

Task Groups:
None

Chairman:
Edwin Bisinger
Akzo Chemicals Inc.

Panel Manager:
Fernando Leiva

In June, the Panel received information about the EPA Risk Management I meeting to evaluate the results of studies conducted by the Panel infulfilling the requirements of the TSCA Section 4 Test Rule for Oleylamine. The Agency's decision was to drop oleylamine from further review, based on a low level of concern for health and environmental effects. Additionally, requirements for third-tier mutagenicity and oncogenicity testing were not implemented based on the Agency staff's conclusions regarding mutagenicity tests.

In September, the Panel agreed to participate in the OECD Voluntary Testing Program to investigate the potential human health and environmental effects of oleylamine. The Panel currently is preparing a Screening Information Data Set dossier which includes the evaluation of existing data, and the identification of any data gaps.

The Panel formed in response to the proposed test rule under TSCA Section 4 requiring pharmacokinetics, genetic effects, subchronic toxicity (including neurotoxicity and reproductive effects), and teratogenicity data.

The Panel will submit the SIDS dossier to OECD under Phase 3 of the voluntary program.

Oxo Process

A5 R95 EO CO EO LO

Chartered:
1990

Task Groups:
2-Ethylhexanol Toxicology Research
2-Ethylhexanoic Acid Toxicology Research
Butyraldehyde Toxicology Research
Butanol/ Isobutanol Toxicology Research

Chairman:
Richard Wise
Union Carbide

Panel Manager:
Barbara Francis

The 2-Ethylhexanol Toxicology Research Task Group worked with BASF AG to complete the mouse and rat oncogenicity studies required under the TSCA Section 4 Test rule. Results were submitted to the Agency in February. In addition, a voluntary pharmacokinetics study on 2-ethylhexanol was submitted to the Agency in May.

To discuss erroneous references to EHA in the GAO Report on TSCA progress, members of the Panel met in March with staff members of Representative Synar, Chairman of the House Subcommittee on Environment, Energy and Natural Resources and Representative Clinger, ranking minority subcommittee member. Panel members noted that after review of the TSCA Section 4 toxicity data, EPA had acted appropriately in referring the compound to OSHA for further evaluation.

The Panel volunteered to sponsor three chemicals in the OECD Voluntary Testing Program. In Phase 2, the chemicals are: 2-ethylhexanol (for which credit is shared with Sweden) and 2-ethylhexanoic acid. Butyraldehyde, which was "recommended without designation" in the 23rd Report of the ITC, after Panel discussions with EPA was nominated for Phase 3 by EPA at the last OECD meetings.

The Panel formed from a merger of the Ethylhexanoic Acid Panel, and the 2-Ethylhexanol Panel along with its Butyraldehyde Task Group. In addition to these three chemicals, the Panel addresses issues pertaining to ethyl and butyl acetate, amyl alcohol, butyl alcohol and isobutyl alcohol. This consolidated approach enables members to address issues on a broad range of chemicals that are starting materials, intermediates, or end products of the same industrial process.

The Panel intends to submit a proposal on butanol and isobutanol to EPA as part of the "open season" opportunity to negotiate TSCA Section 4 testing consent agreements. Panel members will meet with manufacturers of other compounds listed in the proposed TSCA Section 4 Neurotoxicity Endpoint Rule to discuss whether there may be opportunities to work with the Agency during the "open season" to develop a better battery of tests for assessing neurotoxic potential of solvents. After EPA has published a response to the Cuomo/ State of New York petition to add 82 chemicals to TRI data base, the Panel will consider submitting comments on isobutanol.

The Panel intends to publish a manuscript on the developmental toxicity of 2-ethylhexanoic acid in the near future. Also, the Panel will submit comments on EPA's proposed RCRA Hazardous Waste Identification Rule stating that butanol, isobutanol and ethyl acetate should not be added to Appendix VIII.

SL 068097

Petroleum Additives

Chartered:
1990

Task Groups:
Fuels Detergent Performance
Health, Environmental & Regulatory
Product Approval Protocol

Chairman:
John Sanders
Oronite Chevron Chemical Company

Panel Manager:
Carol Stack

The Fuels Detergent Performance Task Group developed a consensus viewpoint on the additive specifications which will be included in a rulemaking for the Clean Air Act Section 211(1). The group presented its views at an EPA workshop in February, as well as to the Motor Vehicle Manufacturers Association, the Original Equipment Manufacturers; and the American Petroleum Institute. While EPA continues to draft the proposed rulemaking, the Panel and individual company members have responded to the Agency's requests for technical input and explanations of additive chemistry.

The Health, Environmental and Regulatory Task Group is actively participating with the Additives Technical Committee in an environmental toxicity research program on several classes of lubricant additives. The data will be used to support European environmental labeling requirements and anticipated U.S. environmental hazard communication regulations. The Task Group also is participating in Phase 2 of the OECD HPV Existing Chemicals voluntary testing program, specifically addressing data needs on zinc dialkyldithiophosphates. Additionally, the Task Group filed comments and testified before EPA on a Clean Air Act NPRM on fuels and fuel additives registration. The rulemaking focused on data requirements for evaporative and combustion emissions to allow an EPA assessment of health and welfare effects. The Task Group's principal concern was the proposal's effect on current EPA initiatives to meet 1990 CAA requirements.

Through the efforts of the Product Approval Protocol Task Group, the Panel established a CMA Code of Practice for engine oil approval testing procedures. The Panel developed the Code to help ensure that a particular engine lubricant meets its intended performance levels. A common theme within the Code is continuous improvement. By defining standard processes for conducting engine tests used to evaluate passenger car motor oils, the Panel expects that these provisions will lead to improvement of test accuracy and precision, thereby improving cost-effectiveness.

The Panel and Task Group were assisted in the development of the Code by the following Work Groups: Statistical Engine Test; Minor Formulation Modifications; Ad Hoc Engine Testing Laboratory; Compliance; and Sponsor Code. The Panel also established the CMA monitoring agency, called Registration Systems, Inc. to act as an impartial organization providing the industry with oversight, administrative and advisory services for application of the Code of Practice. RSI also maintains communications and data management systems for registering and cataloging candidate engine tests. The Panel established a Monitoring Agency Advisory Group to provide guidance to RSI on implementation of the Code.

The Panel formed as the result of expanded interests among manufacturers and marketers of lubricant and fuel additives. Expansion of the scope of activities resulted in closure of the Lubricant Additives Panel, and the formation of a new Petroleum Additives Panel and three Task Groups.

The Panel and its Task Groups will continue to monitor EPA regulatory initiatives on fuels and fuel additives under the CAA; direct interaction with EPA and other interested parties is anticipated prior to publication of the Final Rules. The voluntary research programs in progress will continue into 1993 and beyond. Engine testing under the Code of Practice was initiated in March 1992; the Product Approval Protocol Task Group, its Work Groups, and the MAAG will continue to monitor this activity and update the Code as needed.

Phenol

A80 R16 E0 C0 E4 L0

Chartered:
1988

Task Groups:
Regulatory
Toxicology
Research
Video

Chairman:
Edward Fraini
Dow Chemical
USA

Panel Manager:
Susan Howe

Panel members addressed many of the requirements of OSHA's "Process Safety Management of Highly Hazardous Chemicals" final rule, as they shared information on process hazard management, process change procedures, fall protection, rescue plans, training and certification. The Panel completed the second annual self-assessment of member companies of worker safety in phenol-producing plants, using the Pro-Active Safety Index. At the awards ceremony in October, Texaco Chemical Company, for the second time, was recognized as the Industry Leader in Safety Performance. Aristech Chemical Company was recognized for the Most Improvement in Safety Performance.

Comments submitted to ATSDR by the Regulatory Task Group were successful in persuading the Agency that phenol should not be carried forward in ATSDR's testing program. The Toxicology Research Task Group completed the first two stages of its voluntary pharmacokinetic research program, designed to evaluate the comparative profiles of phenol disposition by oral bolus, drinking water and inhalation routes. The Task Group plans to use the data generated from the studies to convince EPA that many of the studies that could be proposed in a TSCA Section 4 test rule are unwarranted. The Video Task Group drafted a script for a video on safety, handling and transportation of phenol.

The Panel formed to promote greater safety in the production, transportation and use of phenol. Member companies exchange non-proprietary safety information on transportation and handling issues. Education issues are the focus of the Video Task Group, which is targetting worker and customer safety. Health and environmental issues concerning phenol are addressed by the Regulatory Task Group. The research program is monitored by the Toxicology Research Task Group.

The Panel expects to begin production of the video in 1992. The Panel is investigating sponsorship of a seminar on safety in loading and handling. The Regulatory Task Group will continue to monitor and address the TSCA Section 4 test tule, the Clean Air Act, hazardous waste regulations, and other regulations as they affect phenol.

Phosgene

A60 R30 E5 C5 E0 L0

Chartered:
1972

Task Groups:
Engineering,
Safety, &
Environmental
Industrial Hygiene
Medical &
Toxicology

Chairman:
W. E. Irby
Mobay Corporation

Panel Manager:
Robert Romano

The Panel completed its research at New York Medical College on treatment methods for accidental exposure to phosgene. Treatment options for phosgene exposures have been developed from the research results. The Panel sponsored a workshop on countermeasures to phosgene exposure in Houston in September. The Panel continued sponsoring studies in phosgene air dispersion modeling and mitigation. The Panel also continued its phosgene industrial hygiene surveys.

The Panel formed to improve the industry's ability to safely manufacture, handle, and use phosgene. Predicting and controlling ambient concentrations of phosgene from accidental releases is an important Panel objective.

The Panel will continue its regular program of non-proprietary information exchanges among member companies on safety techniques. In addition, the Panel will continue monitoring increasing regulatory interest in phosgene. The Panel will complete Phase 2 of its modelling and mitigation study by the end of 1992. Additional modelling and mitigation work may continue into 1993.

Phthalate Esters

A25 R60 E0 C15 E0 L0

Chartered:
1973

Task Groups:
Toxicology Research
Environmental Research
Food and Drug Applications
Phthalic Anhydride
California Issues
FDA Toxicology Research

Chairman:
James Quance
Exxon Chemical Company

Panel Manager:
Marian Stanley

In response to comments submitted by the Panel, Environment Canada significantly raised is ambient water quality criteria for di-2-ethylhexyl phthalate (DEHP) and di-n-butyl phthalate. The Panel continues to work closely with Canada during assessment of the health and environmental effects of several phthalate esters. In continuation of a cooperative program of information exchange with the CEFIC European Council for Plasticisers and Intermediates, the Panel hosted the fourth joint meeting of the two groups in Washington, DC. The two groups will continue meeting annually to maintain a consolidated effort in research and advocacy.

The Panel completed the first phase of environmental testing under a TSCA Section 4 consent order. EPA has accepted the test results and the Panel is waiting for a written description of the Agency's review and confirmation that the consent order is complete.

In February and March, the Panel commented to ATSDR on both its revised DEHP toxicological profile and the draft priority data needs for DEHP. Comments were also submitted to EPA on the inclusion of DEHA in the 28th ITC report under TSCA Section 4.

The Panel formed in 1972 to address environmental issues. In 1976, the Interagency Testing Committee listed the alkyl phthalate category for test rule development under TSCA Section 4. The ITC also included health effects testing in its concerns following the release by NTP of bioassay results on DEHP and di-2-ethylhexyl adipate. In 1980-81, the Panel worked with EPA to develop the first Negotiated Testing Agreement in lieu of a TSCA Section 4 test rule. The testing was completed in 1984 and the results were submitted to the Agency along with a proposal for further environmental testing. In 1988, the Panel and EPA agreed on an environmental testing program, which is under a consent order.

Reproductive and developmental toxicities of phthalate esters appear to be the least well understood of all the research questions facing the Panel. to increase understanding, the Panel has contracted with an expert scientists, to review and analyze the published and unpublished literature. The outcome of the review will be a published article, in a peer reviewed journal. This work in particular will be used to support the Panel's advocacy during implementation of Proposition 65 in California.

The Panel will continue to work with ATSDR and EPA to avoid inappropriate or unnecessary testing requirements for DEHP. The Panel also is planning to publish results of the environmental effects testing to provide better data to states developing regulations, particularly in the water area. Additionally, the Panel will address the inclusion of phthalates in the air toxics title of Clean Air Act amendments. Also, the Panel is planning to pursue several joint projects with the CEFIC European Council for Plasticisers and Intermediates.

SL 068100

Polychlorinated Biphenyls

A80 R10 E0 C0 E10 L0

Chartered:
1981

Task Groups:
None

Chairman:
John Craddock
Monsanto
Company

Panel Manager:
Elizabeth Festa
Watson

With financial assistance from the CMA Environmental Management Committee, the Panel was able to continue collaboration with the National Electrical Manufacturers Association and the Edison Electric Institute's Utility Solid Waste Activities Group as part of the PCB Industry Consensus Group (ICG). The ICG filed several submissions addressing various aspects of EPA's proposed rulemaking on remaining PCB disposal issues. Specifically, the ICG advocated presumptive numbers for the cleanup of old spills and withdrawal of the PCB anti-dilution provisions of TSCA. The ICG also worked with the EPA Superfund Office and formally presented recommendations to the Superfund Revitalization Team. ICG comments also were filed with New Jersey's Department of Environmental Protection and Energy taking issue with proposed PCB state cleanup standards. The ICG also funded two studies: an updated review of the health effects of PCBs; and a study of temporal trends of PCBs in the environment.

NEMA and the Panel submitted a petition asking EPA to reconsider the analytical method of choice for PCBs under the Safe Drinking Water Act. The PCB Panel also worked with the Dibenzofurans and Dibenzodioxins Panel to document and submit both groups' concerns to EPA about Toxicity Equivalency Factors being applied to PCBs in a regulatory framework, particularly at the state level.

The Panel formed to represent the interests of the industry during implementation of the TSCA Section 6 regulations for the control of PCBs, mitigation of transformer fires, and retention of electrical equipment containing PCBs.

The Panel and the other members of the ICG, will continue to focus on EPA's response to industry's comments on the ANPR. The ICG plans to file comments on the proposed RCRA Hazardous Waste Identification Rule. The ICG also will set up additional meetings with Pollution Prevention and Toxics, Superfund and RCRA officials to coordinate new EPA PCB cleanup rules.

SL 068101

Rubber Additives

A100 RO EO CO EO LO

Chartered:
1979

Task Groups:
Toxicology
Research
MBT

Chairman:
Michael Smith
The Goodyear Tire & Rubber Company

Panel Manager:
Susan Howe

In February, the EPA Risk Analysis Branch held a Risk Management 1 meeting to evaluate the results of the studies conducted by the Panel to fulfill the requirements of the TSCA Section 4 Test Rule for 2-Mercaptobenzothiazole (MBT). EPA staff stated that the most apparent risk due to MBT appears to be downstream from cooling towers releasing MBT that is used as a corrosion inhibitor.

The Panel formed to support research that would expand the rubber additives safety and health issues data base. To date, the Panel has collected information on approximately 65 chemicals classified as rubber additives, and has sponsored more than $800,000 in research.

Although the primary use of MBT is as an intermediate for rubber accelerators and does not result in water releases, the Panel will address the Agency's concerns for MBT use in cooling towers. The Panel is in the process of publishing the results of the studies conducted under the Section 4 test rule. The Panel also will address other environmental issues in the near future.

Sodium Bromide

A100 RO EO CO EO LO

Chartered:
1990

Task Groups:
None

Chairman:
Louise Wen
Ethyl Corporation

Panel Manager:
Jonathon Busch

The Panel initiated a voluntary study to evaluate the relative toxicities of bromine chloride and chlorine on various freshwater and saltwater species. The final study report was completed and submitted to EPA in July 1991. Results of this aquatic toxicity research are being used by EPA for developing water quality-based limitations to control discharges to water from facilities using activated sodium bromide or bromine chloride as treatment chemicals.

The Panel formed to address health, safety, environmental, and regulatory issues relating to sodium bromide. Research has become the primary focus of the Panel.

The Panel will monitor pertinent research elsewhere, sponsor new research, and develop advocacy positions. The Panel also will interact closely on sodium bromide issues with interested organizations and agencies, such as the Utility Water Act Group and the EPA Office of Water.

SL 068102

Specialty Acrylates/ Methacrylates

A25 R70 E0 C5 E0 L0

Chartered:
1987

Task Groups:
Scientific Issues
Membership
Regulatory Issues

Chairman:
Georjean Adams
Minnesota Mining & Manufacturing Company

Panel Manager:
Mar Stanley

The Panel completed the range-finding and the sub-chronic studies in its research program. Meetings were held with EPA to review the data and reach agreement on dose levels for the chronic study. The Panel scientists gave a presentation to NTP on the proposed testing of several acrylates.

The Panel formed to address EPA concerns about new and existing specialty acrylates and methacrylates. The Panel's major emphasis is on working with the Agency to remove restrictions on the development and marketing of new products. Current Panel membership consists of producers, importers, formul tors, and users of these chemicals.

The Panel will continue the research program and consultation with EPA to ensure that the program is satisfactory to both industry and the Agency. The Panel also will continue efforts with EPA to remove distribution restrictions on important new chemical products in this category.

Titanium Dioxide

A65 R0 E35 C0 E0 L0

Chartered:
1977

Task Group:
$TiCl_4$ Modeling

Chairman:
Jerry Blacker
SCM Corporation

Panel Manager:
Jonathon Busch

The Panel submitted scientific data and gave a presentation to NIOSH regarding the lack of carcinogenicity of titanium dioxide. These efforts were in response to NIOSH classifying the chemical as a potential occupational carcinogen. The Panel noted that its own position was consistent with determinations made by ACGIH, EPA, FDA, and IARC. The Panel also began developing a new air emissions model for titanium tetrachloride ($TiCl_4$). Current $TiCl_4$ air emissions models are inadequate, and the Panel hopes that the new model will more adequately predict downwind dispersion and concentration following accidental releases. The new model will track dispersion of secondary reaction products in addition to $TiCl_4$.

The Panel continued information-sharing sessions in which member company representatives discuss case histories of accidental releases and safety problems encountered with $TiCl_4$. The Panel hopes to enhance worker and community safety by sharing experiences and information on equipment improvements.

The Panel formed in 1977 to address toxicology and occupational issues associated with titanium dioxide and its manufacture.

The Panel plans to continue development of a $TiCl_4$ air dispersion model, provide scientific data to NIOSH, OSHA, and other interested organizations, participate in an international symposium on lung clearance mechanisms, and develop advocacy positions on proposed regulations.

SL 068103

Toluenediamines

A100 RO EO CO EO LO

Chartered: 1991

Task Group: Toxicology Research

Chairman: James LaPrad BASF Corporation

Panel Manager: Cecilia Spearing

In 1991, EPA published the proposed end-point rule under TSCA Section 4 requiring testing for developmental and reproductive toxicity. 2,4-Toluenediamine was among the chemicals included in the proposed rule. Also in 1991, the Panel developed chemical-specific comments which were transmitted to EPA. Additionally, the Panel participated in the EPA public meeting on the proposed rule. Since then, the Panel has awaited a response from EPA.

A Toluenediamines Panel was formed under CMA in 1980 to address a TSCA Section 4 Advance Notice of Proposed Rulemaking on phenylenediamines, including toluenediamines. EPA recommended carcinogenicity testing for TDA, but later in the rulemaking decided that testing was not required. Ultimately, EPA, under the authority granted by TSCA Section 9, referred the matter to OSHA for possible regulation. OSHA did not initiate rulemaking on TDA and, there being no other interests, the Panel terminated in 1987. The Panel was reactivated in 1991 by affected manufacturers to address the proposed end-point rule under TSCA Section 4.

As development of the test rule proceeds, the Panel will work with EPA and conduct testing as required.

Trimellitate Esters (Completed)

A100 RO EO CO EO LO

Chartered: 1983

Task Group: Toxicology Research

Chairman: Dean Finney Eastman Chemical Company

Panel Manager: Elizabeth Moran

The ITC designated tris 2-ethylhexyl trimellitate (TOTM) for priority testing under TSCA Section 4 in 1982. The recommended testing included metabolism, subchronic, mutagenicity, and environmental effects testing. The producers immediately formed a special task group under the Phthalate Esters Panel and subsequently formed the Panel to pursue a negotiated testing agreement. The Panel reached an agreement with EPA in 1984 and has since completed all testing on TOTM and submitted the data to EPA. In 1990, the Panel added terephthalic acid to the scope of its activities when EPA published a proposal to delist TPA from EPCRA. In 1991, the terephthalic acid group formed an independent panel.

EPA annouced the completion of its review of the data on TOTM October. Since no further action is contemplated under TSCA, the Panel had achieved its objectives. The Panel disbanded in May.

SL 068104

Vinyl Chloride

Chartered:
1991

Task Groups:
Education & Training
Contractor Identification
Railcar Equipment Identification
Communications

Chairman:
John Coburn
Occidental Chemical Corporation

Panel Manager:
Has Shah

In May, the Panel formed the Vinyl Chloride Transportation Network (VCNet) to promote the safe handling and distribution of this widely used chemical. VCNet will provide technical expertise and assistance by the industry and contractors to emergency responders at vinyl chloride transportation incidents. Shippers of vinyl chloride will be able to activate the network through CHEMTREC, CMA's hazardous materials hotline. VCNet will coordinate its activities with railroad and community response teams. VCNet is the first mutual-aid network to be formed under CHEMSTAR.

Once VCNet was formed, the Panel undertook to expand its membership to shippers of empty vinyl chloride railcars, because they share the same DOT regulatory responsibilities as the loaded car vinyl chloride shippers. As expected, many new shippers have joined the network.

In March, the Panel held two Vinyl Chloride Safety Awareness Training Workshops. The workshops were directed at emergency response personnel from fire departments, rescue squads, "for-hire" contractors, manufacturing plants, railroads and communities. The workshops were designed to provide attendees with a better understanding of the principles and techniques involved in responding to a hazardous materials accident. The workshops also gave a more detailed view of the health and safety risks which may be encountered in responding to an incident involving vinyl chloride. Workshop presenters provided instruction on the safe approach to and assessment of a vinyl chloride incident and proper handling techniques to follow during emergency response. The workshop attendees also participated in a simulated vinyl chloride incident.

Panel members, on a periodic basis, shared non-proprietary safe-handling and distribution incident information on vinyl chloride to promote safety and to protect environmental quality during manufacturing and distribution. These efforts will help member companies in their implementations of several Responsible Care Codes of Management Practices.

The Panel was formed under CMA in 1974 to develop and assess health and safety data on vinyl chloride monomer. After funding several animal studies, the Panel shifted its focus to epidemiologic studies of workers. The Panel completed its research goals and terminated activity in 1990. The Panel was reactivated in 1991 by manufacturers to promote greater safety in the transportation of vinyl chloride.

VCNet will identify "for-hire" contractors to provide emergency response services when the shipper cannot be contacted by CHEMTREC or when the shipper cannot reach the incident site quickly. VCNet also will conduct a mock emergency response exercise to ensure that CHEMTREC, "for-hire" contractor response teams, and company response teams are aligned and can act expeditiously as planned. The Panel will hold semi-annual Vinyl Chloride Safety Awareness Training Workshops at various locations throughout the U.S. to maximize emergency response personnel training for vinyl chloride.

Vinylidene Chloride

A100 RO EO CO EO LO

Chartered: 1974

Task Groups: None

Chairman: James Barter PPG Industries, Inc.

Panel Manager: Kathleen Roberts

The Panel submitted comments on EPA's proposal to list vinylidene chloride as a "high risk" pollutant under the Clean Air Act. The Panel noted that the overwhelming evidence on VDC indicates that is is unlikely to pose any carcinogenic hazard to humans and questioned EPA's three-tier risk calculations. EPA has not yet responded to the comments.

The Panel formed to sponsor research on the potential toxicologic effects and pharmacokinetics of VDC. The objective was to develop data for ensuring the safety of workers involved in the manufacture, handling, and use of the chemical, as well as the safety of communities surrounding production facilities.

The Panel will continue to monitor potential regulations affecting vinylidene chloride, especially within EPA and ATSDR.

Water Additives

A50 R30 E15 C5 EO LO

Chartered: 1985

Task Group: Specific Chemicals

Chairman: Randy Deskin American Cyanamid Company

Panel Manager: Robert Romano

The Panel decided to work with the National Sanitation Foundation in developing a water additive certification program for several potable water additives. The Panel has completed the consensus water additives certification packages for the following chemicals: polydiallyldimethylammonium chloride (PDADMAC), copolymers of epichlorohydrin and dimethylamine (EPI/DMA), and polyacrylamide (PAM). The Panel has submitted these packages for review to the NSF.

The Panel formed to address regulations of direct and indirect potable water additives. The objectives are to monitor regulatory policies, improve communication, review toxicology data, develop advocacy positions, ensure that any water additives program is designed and administered in a cost-effective manner, and ensure that water additives are used in a manner that does not compromise public health, safety, or the environment.

The Panel also will participate in American Water Works Association activities where water certification programs will be further discussed. Certification packages for the three chemicals will be reviewed by NSF and used by each member company for NSF certifications. The Panel will continue to work with NSF during this review process. The Panel waits to execute the Data Ownership Contract for toxicology studies generated by the Panel.

CHEMSTAR Panels Financial Status

For the Twelve Months Ended May 31, 1992

	CHEMSTAR Panels	Balance June 1, 1991	Contribution Receipts	Interest Revenue	Expenditures	Balance May 31, 19[redacted]
1	Acetone	63,900	227,800	4,200	90,600	205,3[redacted]
2	Alkanolamines	186,800	302,400	13,100	103,700	398,600
3	Alkylphenols and Ethoxylates	272,100	0	7,700	243,800	36,000
4	α-Olefins	0	16,000	100	200	15,900
5	Arsenic	600	0	100	0	700
6	Aryl Phosphates	0	51,000	100	62,200	-11,100
7	Benzene	97,700	0	5,100	10,600	92,200
8	Biocides	891,300	473,500	40,800	702,400	703,200
9	Brominated Flame Retardants	208,500	111,000	5,500	329,800	-4,800
10	Butadiene	694,600	1,751,400	50,200	1,118,200	1,378,000
11	Butylated Hydroxytoluene	23,500	18,000	600	41,900	200
12	Carbon Disulfide	7,000	293,700	4,000	176,900	127,800
13	Chlorinated Pool Chemicals	28,200	212,100	5,200	127,300	118,200
14	Chlorine Dioxide	161,300	158,800	6,300	242,900	83,500
15	Chlorobenzenes	417,700	321,500	19,800	396,,300	362,700
16	Cobalt	30,000	39,000	1,300	24,800	45,500
17	Cresols	50,700	0	2,500	9,100	44,100
18	Crystalline Silica	22,700	181,100	23,000	138,200	67,900
19	Cumene	189,400	40,100	5,400	221,000	13,900
20	Cyclohexane	-300	50,000	900	49,800	800
21	Dibenzofurans/Dibenzodioxins	10,900	0	400	7,600	3,700
22	Diisocyanates	72,200	270,000	5,200	226,100	121,300
23	Dinitrotoluenes	128,800	0	6,300	25,600	109,500
24	Ethylene Dibromide	100	0	0	0	100
25	Ethylene Dichloride	5,300	0	300	0	5,600
26	Ethylene Glycol	23,800	93,300	1,100	72,500	45,700
27	Ethylene Oxide	347,300	225,300	18,000	356,600	234,000
28	Fluoroalkenes	245,000	58,000	9,300	194,700	117[redacted]
29	Fluorocarbons	175,000	0	8,900	21,000	162,[redacted]
30	Glycol Ethers	571,600	0	19,700	425,700	165,600
31	Hexamethylene Diisocyanate	8,300	6,000	300	11,100	3,500
32	Hydrazine	5,600	185,000	1,300	69,100	122,800
33	Hydrogen Fluoride	87,100	141,700	3,000	142,100	89,700
34	Hydroquinone/Quinone	3,000	2,500	0	4,400	1,100
35	Isopropanol	888,900	416,400	36,800	738,200	603,900
36	Ketones	301,400	90,600	15,000	167,300	239,700
37	Metal Catalysts	55,700	73,500	2,300	70,000	60,500
38	Methyl Bromide	155,300	433,600	10,700	409,700	189,900
39	Methylenedianiline	45,300	0	2,500	0	47,800
40	Nitrosamines	10,400	33,000	500	37,500	6,400
41	Olefins	0	120,000	900	74,700	46,200
42	Oleylamine	12,600	10,000	400	11,300	11,700
43	Oxo Process	1,513,700	296,000	63,700	1,023,000	850,400
44	Petroleum Additives	243,400	587,100	15,500	601,200	244,800
45	Phenol	42,500	467,200	16,500	214,900	311,300
46	Phosgene	161,300	54,000	4,900	184,600	35,600
47	Phthalate Esters	1,410,500	242,400	65,000	710,800	1,007,100
48	Polychlorinated Biphenyls	59,000	145,700	3,200	161,700	46,200
49	Rubber Additives	148,900	0	7,400	31,800	124,500
50	Sodium Bromide	21,400	30,000	500	46,100	5,800
51	Specialty Acrylates/Methacrylates	1,027,500	330,000	56,200	235,400	1,178,300
52	Titanium Dioxide	12,000	53,900	600	42,200	24,300
53	Toluenediamines	0	40,000	400	25,800	14,600
54	Trimellitate Esters	31,000	50,000	1,500	50,000	32,500
55	Vinyl Chloride	23,600	119,000	1,900	89,100	55,400
56	Vinylidine Chloride	19,200	10,000	500	23,900	[redacted]00
57	Water Additives	380,100	326,300	15,200	569,200	152,400
58						
59		$11,593,400	$9,157,900	$571,100	$11,164,600	$10,157,800
60						

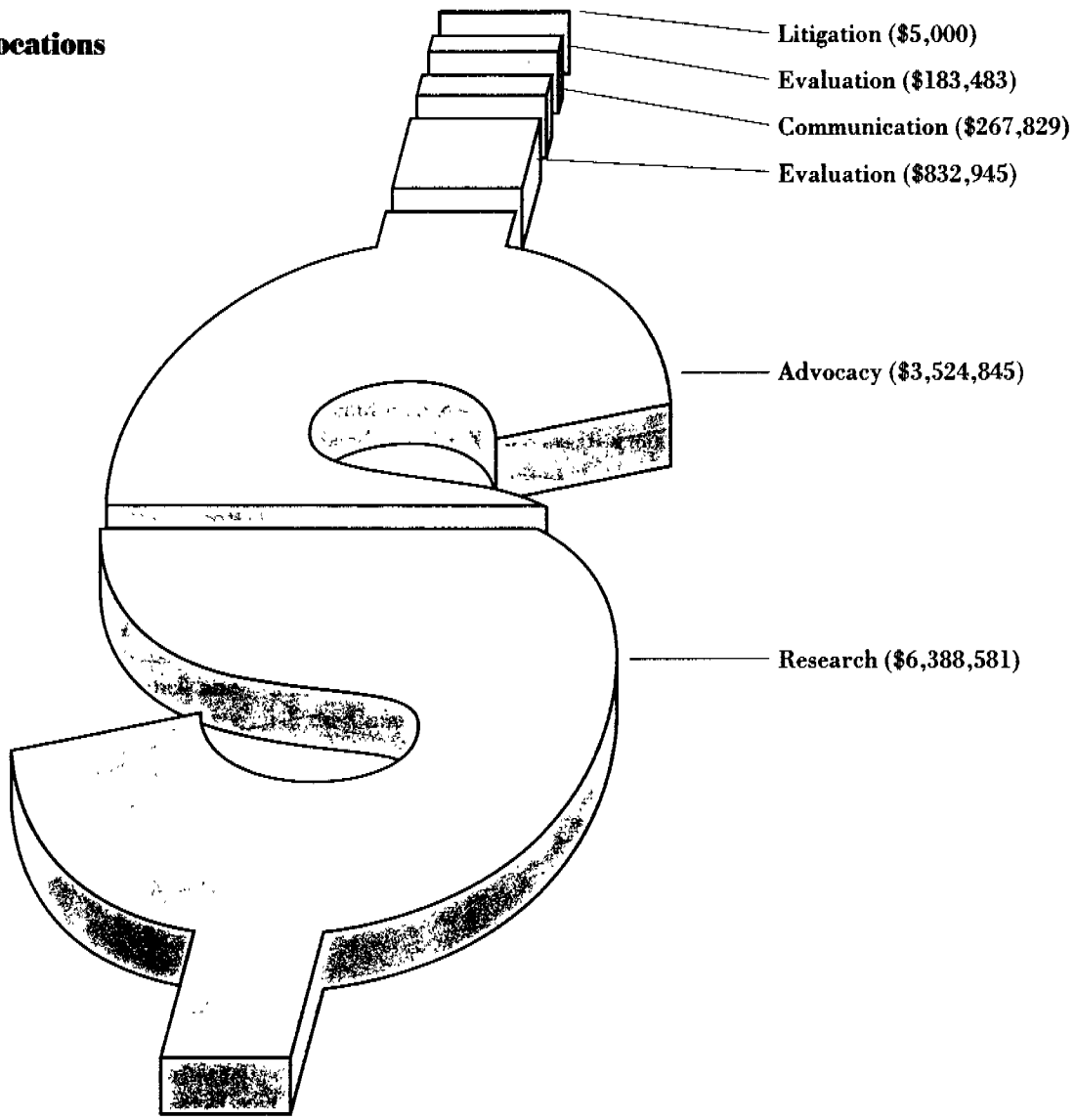
Each panel is required to maintain a CASH DEPOSIT ACCOUNT which recognizes that CMA signs all contracts on behalf of the panels, and assumes the financial liability for meeting their contractual commitments. The balance permits timely honoring of financial commitments. The combined compensating balance for all CHEMSTAR Panels at the beginning of Fiscal Year '91-92 was about $11.6 million. On this date, CMA had financial liabilities totalling about $6 million under 142 executed contracts on behalf of the various panels.

INTEREST on the unexpended cash balances provides supplemental revenue for each CHEMSTAR Panel. This year, panels earned a combined total of approximately $570 thousand in interest income.

EXPENDITURES of CHEMSTAR Panels are based on budgets approved by each group. In fiscal Year '91-92, panels spent a collective total of $11.2 million for research, consultants, legal counsel and panel management.

Figure 6
CHEMSTAR Panels and Councils

Financial Allocations



SL 068108

CHEMSTAR Policy Committee Purpose: The Committee ensures that all CHEMSTAR Panels and Business Councils are conducted in a manner consistent with Association policy, and with the CHEMSTAR Guidelines; counsels with the panels and councils regarding new and revised operating needs; and, reviews and makes recommendations on advocacy activities when requested by a panel, council or staff.

CHEMSTAR Policy Committee

Chairman
Seymour S. Preston, III
Elf Atochem North America, Inc.

Vice Chairman
Peter R. Heinze
BASF Corporation

David F. Zoll
Vice President-General Counsel
CMA

Gary C. Herrman
Vice President-Treasurer
CMA

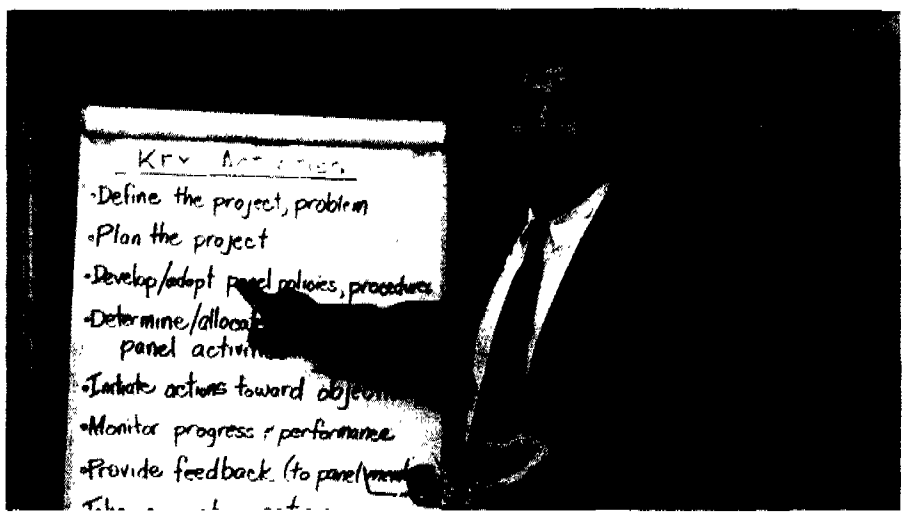
Gordon D. Strickland
Vice President-Technical Services
CMA

Staff Executive
Langley A. Spurlock
Assistant Vice President, Technical Services
Director, CHEMSTAR Division
CMA

Management of the CHEMSTAR Panels and Councils becomes ever more challenging for panel, council and task group chairmen as issues, objectives and locations of effort multiply. This year, as in previous years, a broad array of CMA services were employed to ensure that panels and councils received adequate support for their operations.

Leadership Training

The annual CHEMSTAR Leadership Session was held in December, and attended by ten panel and council leaders. The Sessions are designed to assist chairmen in resolving the dilemmas of leading diverse and changing organizations. Sessions are invitational, one-day workshops primarily held for new panel, council and task group chairmen. Participation by experienced chairmen also is welcome and sought. At the Sessions, a training specialist from a CMA member company provides advice on persuasive leadership, and peers share experiences in dealing with related problems. Because participant ratings continue to be high, another Session is planned for late 1992.

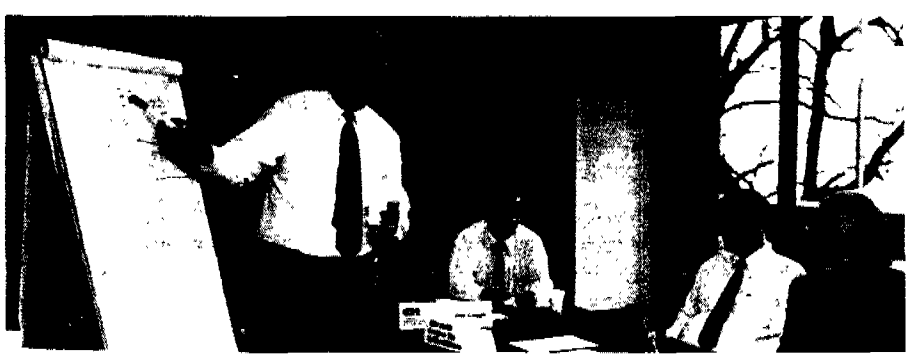


Above and Below: Leadership Session

Communications

The CHEMSTAR Division continues to place high priority on ensuring industry awareness of panel and council activities. CHEMSTAR NEWS, a quarterly publication with a circulation of 1,900 is the Division's principal means of reaching a broad industry segment. The NEWS points out upcoming regulatory impacts on specific chemicals, summarizes recent actions of various panels and councils, lists panel and council reports and agency submissions, and highlights significant changes in panel and council membership. The NEWS also is a means of publicizing the formation of new panels and councils for general information purposes and for soliciting a wider membership base. Through the "Spotlight" article in each issue, the accomplishments of individual panels and councils are summarized. This year, the Fluoroalkenes Panel, the Total Quality Council, the Cumene Panel and the Phosgene Panel were featured.

The CHEMSTAR Alerts, published as needed, are the Division's means of quickly informing panel and council members and others in the industry when a time-sensitive response is needed on a chemical-specific or a specific business interest issue. Subjects in Alerts vary from a pressing need to submit information to an agency, to the need for joining other companies in a response to a regulatory deadline.



Division Staff

The CHEMSTAR Division responded to this year's increase in panel and council activities by expanding the management staff and assigning new responsibilities to existing managers. Fernando Leiva filled the newly created position of Panel Manager. Devonne Bilal and Patricia Messenger both were promoted to positions of Administrative Assistant, bringing the managing staff to seventeen persons.

SL 068110

Director, CHEMSTAR Division

Langley A. Spurlock, Ph.D., CAE

Dr. Spurlock completed his tenth year as Director of the CHEMSTAR Division in June. He is responsible for oversight of all CHEMSTAR panels and councils. He also manages the Total Quality and Chemical Distributors Councils.

Dr. Spurlock is a Certified Association Executive, awarded by the American Society of Association Executives and a Quality Education System Trainer certified by Phillip Crosby Associates. He currently serves on the Board of Directors of the ASAE Foundation. Before joining CMA, he held an appointment in the U.S. Government Senior Executive Service at the National Science Foundation. During his tenure at NSF he served as Senior Staff Associate for Operations, Directorate for Mathematical and Physical Sciences, Special Assistant to the Director, Office of Planning and Resources Management, and as Oversight Coordinator and Special Assistant to th Director, Office of Audit and Oversight. Previously, Dr. Spurlock received an appointment as U.S. Department of Health, Education and Welfare Fellow, and served as Special Assistant in the Immediate Office of the Secretary of HEW. Earlier, he was Assistant to the President at the American Council on Education. Before coming to Washington, Dr. Spurlock held an appointment as Associate Professor of Chemistry at Brown University and earlier was Assistant Professor of Chemistry at Temple University. Previously he served as Senior Research Chemist in the General Chemical and Agricultural Chemical Divisions of Allied Corporation. Dr. Spurlock received a Ph.D. in Organic Chemistry from Wayne State University.

Directors, CHEMSTAR Panels

Hasmukh C. Shah, Ph.D., D.A.B.T.

Dr. Shah joined CMA and the CHEMSTAR Division in 1979. He is responsible for the management of the Biocides, Brominated Flame Retardants, Ethylene Dichloride, and Vinyl Chloride Panels.

Dr. Shah is a Board Certified Toxicologist. Before coming to CMA, he was the Director of the Toxicology and Biomedical Sciences Department of Equitable Environmental Health. He was also the Project Director for the National Institute for Occupational Safety and Health's criteria document project, a for the "Profiles on Occupational Hazards for Criteria Document Priorities." Previously, at the Stanford Research Institute, Dr. Shah was a Project Coordinator, and he served as a Senior Toxicologist. Previously, he was a Visiting Fellow Scientist at the National Institute for Environmental Health Sciences. Dr. Shah received a Ph.D. in Pharmacology and Toxicology from the University of Rhode Island.

Carol R. Stack, Ph.D.

Dr. Stack joined CMA and the CHEMSTAR Division in 1980. She is currently responsible for management of the Benzene, Chlorobenzenes, Glycol Ethers, and Petroleum Additives Panels.

Before joining CMA, Dr. Stack was employed in the Toxicology and Biomedical Sciences Department at Equitable Environmental Health where she served as an Assistant Project Director responsible for the preparation of NIOSH multichemical criteria documents. Earlier, she served as Visiting Scientist at the Neurological Institute in Bogota, Colombia, where she investigated central auditory pathways in echolocating birds. Dr. Stack received a Ph.D. in Biology from New York University.

SL 068111

Associate Directors

Elizabeth J. Moran, Ph.D., D.A.B.T.

Dr. Moran joined CMA and the CHEMSTAR Division in 1981. She continued this year as manager of the Butadiene, Methylenedianiline, and Trimellitate Esters Panels and the Laboratory and Research Chemicals Council. In addition, she added two more panels, Terephthalates and Olefins.

Dr. Moran is a biochemist and Board Certified Toxicologist. She is currently on the Council of the American College of Toxicology. She also chairs the ACT Committee on Animals in Research. Before coming to CMA, she was a program manager at JRB Associates. Earlier, Dr. Moran directed the Flavor Safety Program at International Flavors and Fragrances, Inc., where she was responsible for toxicological testing on new chemicals. Previously, Dr. Moran conducted lipid nutrition research at the U.S. Department of Agriculture and was a visiting professor at the University of Maryland. Dr. Moran received a Ph.D. in Biochemistry from the University of Maryland.

Robert R. Romano, Ph.D.

Dr. Romano joined CMA in 1980 as a manager in the Environmental Division where he was responsible for the water and air programs. In 1985, he joined the CHEMSTAR Division as an Associate Director. He continued this year as manager of the Chlorine Dioxide, Ethylene Dibromide, Ethylene Oxide, Phosgene, and Water Additives Panels.

Dr. Romano came to CMA from the U.S. Nuclear Regulatory Commission, where he worked as an Associate Project Director. Previously he worked on a school fluoridation project for the Indiana State Board of Health. He has also taught at Del Mar College and American University. Presently, Dr. Romano is an adjunct Environmental Engineering Professor at George Washington University and teaches courses in environmental management and program management. He received a Ph.D. in Environmental Sciences and Engineering from Purdue University.

Elizabeth Festa Watson, B.A.

Ms. Festa Watson (formerly Gormley) joined CMA and the CHEMSTAR Division in 1983. She is responsible for the management of the Dibenzofurans/Dibenzodioxins, Polychlorinated Biphenyls, and Crystalline Silica Panels, and the Atmospheric Research Council.

Prior to joining CMA, she was Section Staff Executive with the National Electrical Manufacturers Association, where she was responsible for the Nuclear Magnetic Resonance Imaging Section with the Diagnostic Imaging and Therapy Systems Division. Previously, Ms. Festa Watson worked in the Endocrine Biochemistry section of the National Institute of Arthritis and Metabolic Disease at the National Institutes of Health, and held the position of Research Chemist at both CENTEC Corporation and Radian Corporation. She was also a recipient of a National Science Foundation Assistantship. Ms. Festa Watson earned a B.A. in Chemistry from Albertus Magnus College.

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Senior Panel Managers

Jonathon Busch, MBA

Mr. Busch joined CMA and the CHEMSTAR Division in 1990. He is responsible for the management of the Carrier Assessment Council and its Highway Task Group as well as the Alkanolamines, Cyclohexane, Hydroquinone, Sodium Bromide, and Titanium Dioxide Panels.

Prior to joining CMA, Mr. Busch was a Senior Associate with ICF-Clement,a health and environmental sciences consulting firm. He was responsible for a variety of scientific efforts in toxicology, risk and exposure assessment, and environmental auditing. Previously, Mr. Busch was Senior Science Analyst with the Cosmetic, Toiletry and Fragrance Association. He was responsible for developing scientific literature reviews on chemicals and for technical and administrative efforts associated with ensuring ingredient and product safety for the cosmetic industry. Mr. Busch received a MBA in Finance from George Mason University and a B.S. in Biology from Virginia Polytechnic Institute and State University.

Barbara O. Francis, MBA

Ms. Francis joined CMA and the CHEMSTAR Division staff in 1989. She is responsible for the management of the Acetone, Cumene, Cresols, Dinitrotoluenes, Oxo Process and Ketones Panels.

Before joining CMA, Ms. Francis was with Interspan Inc., a management consulting firm. Previously, she held the position of product planner for Hoechst Celanese, Inc. and also served as a translator for the U.S. Air Force in Europe. Ms. Francis received an M.B.A. from Virginia Polytechnic Institute and State University and a B.S. in biology and chemistry from Bishop's University in Quebec, Canada.

Susan R. Howe, M.S.

Ms. Howe joined CMA and the CHEMSTAR Division staff in 1989. She is responsible for the management of the Carbon Disulfide, Cobalt, Metal Catalysts, Nitrosamines, Phenol, and Rubber Additives Panels.

Before coming to CMA, Ms. Howe was a Product Safety Representative for the Mobay Corporation. Previously, she was a Regulatory Specialist with Ruetgers-Nease Chemical Company. Ms. Howe received an M.S. degree in Food Science and a B.A. in Science from the Pennsylvania State University.

Cecilia W. Spearing, M.S.

Ms. Spearing joined CMA and the CHEMSTAR Division staff in 1991. She is responsible for management of the Isopropanol, Diisocyanates, and Toluenediamines. She also manages the following panels that formed specifically for participation in the OECD High Production Volume Existing Chemicals Voluntary Testing Program: Olefins; Ethylene-bis-stearamide; and, Tris(chloroalkyl)phosphates.

Before coming to CMA, Ms. Spearing was Project Coordinator, US Army Medical Research and Development Command Peer Review Panels, in the Special Science Programs Department of the American Institute of Biological Sciences. Previously, she served as Staff Associate, Directorate for Mathematical and Physical Sciences, the National Science Foundation. She also served the Foundation as Assistant and Associate Program Director, Metabolic Biology. Ms. Spearing received a B.A. in Chemistry from Hunter College of New York. She received a M.A. in Science Education from Teachers College, Columbia University and M.S. in Biochemistry from The George Washington University School of Medicine and Health Scien

Marian K. Stanley, MBA

Ms. Stanley joined CMA and the CHEMSTAR Division 1990. She is responsible for the management of the Specialty Acrylates/Methacrylates and Phthalate Esters Panels and the Marine Task Group of the Carrier Assessment Council.

Before joining CMA, Ms. Stanley was a Technical Project Manager with Squibbmark. Previously, she was employed as both a development and analytical chemist at Union Carbide Corporation. Ms. Stanley received a MBA in Pharmaceutical Studies from Fairleigh Dickinson University, and a B.S. in Chemistry from Pratt Institute.

Panel Managers

T. Dee Kuhn, B.S.

Ms. Kuhn joined CMA and the CHEMSTAR Division in September. She is responsible for the management of the Methyl Bromide, Butylated Hydroxytoluene, Hydrazine, and Brominated Flame Retardant Panels.

Before joining CMA, Ms. Kuhn was a Quality Assurance Supervisor with Hazleton Laboratories. Ms. Kuhn received a B.S. in Biology from Vanderbilt University, and is completing a M.S. in Environmental Biology from George Mason University.

Kathleen Roberts, B.S.

Ms. Roberts joined CMA and the CHEMSTAR Division in 1991. She is responsible for the management of the Ethylene Glycol, Ethylene Dichloride, Fluoroalkenes, Chlorinated Pool Chemicals, Hexamethylene Diisocyanate, Aryl Phosphates, and Vinylidene Chloride Panels. During the past year, she provided assistance to the Hydrogen Fluoride Panel, by managing the Transportation, Personal Protective Equipment, Materials of Construction, and Storage System Task Groups. She also continues to manage the Fuels Detergent Performance Task Group under the Petroleum Additives Panel. Before joining CMA, Ms. Roberts was Product Manager with Jellinek, Schwartz, Connolly & Freshman, an environmental consulting firm. In the firm's Pesticide Reregistration Division, she managed several pesticide testing programs required under FIFRA. Previously, she was a laboratory technician for Hazleton Laboratories America, conducting genetic and inhalation toxicology studies. Ms. Roberts received a B.S. degree in Biology from the University of North Carolina at Chapel Hill.

Fernando S. Leiva, M.A.

Mr. Leiva joined CMA and the CHEMSTAR Division in May. He is responsible for the Hydrogen Fluoride, Oleylamine and the Alkylphenol and Ethoxylates Panels.

Before joining CMA, Mr. Leiva was Safety Director with the City of Charlotte and Mecklenburg County governments. Previously, he was an Area Loss Control Engineer for Burlington Industries. He is fluent in English and Spanish and has acted as translator for the Federal courts in Charlotte. Mr. Leiva received a MA degree from the University of North Carolina at Charlotte and a BS degree in Biology and Chemistry from Guilford College.

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Administrative Assistants

Devonne Bilal

Ms. Bilal joined CMA and the CHEMSTAR Division in 1980. Ms. Bilal is responsible for administrative oversight and training of the Division support staff. She also coordinates production of Division publications such as the CHEMSTAR News and the CHEMSTAR Annual Report.

Before joining CMA, Ms. Bilal was a Personnel Clerk at the Departmen State, Bureau of Consular Affairs, sponsible for the Passport Services function. Earlier, she taught English, history and mathematics at Muhamm University. Ms. Bilal studied Busi Management at Strayer College.

Patricia A. Messenger

Ms. Messenger joined CMA and the CHEMSTAR Division in 1982. She became Administrative Assistant, Business Councils in 1992. She is responsible for administrative oversight of all Business Councils managed within the Division, as well as direct administrative support and task group management for the Total Quality and Chemical Distributors Councils.

Before coming to CM lessenger was administrative a- · Clas Riggs Owens & Ramos .a ical services representative at th- ghs Corporation. Earlier, she in- the mentally and physically cha. in Summit County, Ohio. She also ed an elementary grades teaching ce- .icate om the Catholic Diocese of Cleveland. Ms. Messenger studied biology at the University of Akron.

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Legal Counsel

The panels and councils were directly assisted by the CMA Legal Department in antitrust, contract, research and regulatory areas. Reflecting the importance and complexity of their issues, a CMA attorney is assigned full-time to the affairs of CHEMSTAR. To ensure that antitrust protection is consistently maintained, CMA attorneys counselled panel and council chairmen, as well as Division staff on proper procedures. As usual, staff attorneys reviewed all panel and council comments, contracts, reports, agendas, and minutes as part of routine protective measures. In research, the assigned CMA counsel supported Division managers in drafting and negotiating the nearly 150 contracts awarded this year to laboratories and consultants. In advocacy, the CMA counsel supervised the activities of outside counsels retained by the panels and councils. The CMA counsel provided advice on regulatory activities and ensured that member company legal counsels were informed of significant developments.

Counsel

Robert D. Ondocsin, J.D.

Mr. Ondocsin joined the CMA Legal Department in 1989 as Counsel for OSHA matters including hazard communication, worker notification, employee medical, health and safety programs, and right-to-know. He became Counsel to the CHEMSTAR Division in 1991. He reviews and provides counsel in production of all substantive panel and council documents including contracts, regulatory comments, legislative correspondence and testimony, filings in litigation, and press releases. In addition, he advises panels and councils on antitrust issues and manages retained counsel.

Before coming to CMA, Mr. Ondocsin was an Industrial Hygienist with Union Carbide Corporation in the Chemicals and Plastics Group. He also held a similar position at PPG Industries, Inc. He holds a B.S. and an M.S. from the University of Pittsburgh, and a J.D. from Pace University.

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Top to Bottom, Left to Right:
Top Row: Robert Romano, Jon Busch, Fernando Leiva; ***Row 4:*** Carol Stack, Susan Howe, Dee Kuhn; ***Row 3:*** Patricia Messenger, Cecilia Spearing, Devonne Bilal; ***Row 2:*** Marian Stanley, Hasmukh Shah, Elizabeth Moran; ***Bottom Row:*** Kathleen Roberts, Langley Spurlock, Barbara Francis, Elizabeth Watson.

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CHEMSTAR

The Chemical Self-funded Technical Advocacy and Research (CHEMSTAR) Panels and Councils provide a mechanism for companies that wish to conduct advocacy and/or research on specific chemicals and specific business interest issues.

The CHEMSTAR Business Councils address research, data-gathering, program and advocacy activities in those designated business sector or business function areas that are part of, or significant to, chemical manufacturing interests.

CHEMSTAR Panels conduct advocacy to encourage governments to develop or modify regulations for the benefit of society and the chemical industry. Panels sponsor research to collect scientific information on health and the environment. The data are used to promote the health and safety of the general public and those involved in the manufacture, processing, distribution, use and disposal of chemicals. CMA disseminates to the public all final reports and significant findings from panel-sponsored research, where the law permits.

THE COUNCILS

- Atmospheric Research
- Carrier Assessment
- Chemical Distributors
- Laboratory & ResearchChemicals
- Partnership for Plastics Progress
- Total Quality

THE PANELS

- Acetone
- Alkanolamines
- Alkylphenols & Ethoxylates
- Aryl Phosphates
- Benzene
- Biocides
- Brominated Flame Retardants
- Butadiene
- Butylated Hydroxytoluene
- Carbon Disulfide
- Chlorinated Pool Chemicals
- Chlorine Dioxide
- Chlorobenzenes
- Cobalt
- Cresols
- Crystalline Silica
- Cumene
- Cyclohexane
- Dibenzofurans/Dibenzodioxins
- Diisocyanates
- Dinitrotoluenes
- Ethylenebis-(stearamide)
- Ethylene Dibromide
- Ethylene Dichloride
- Ethylene Glycol
- Ethylene Oxide
- Fluoroalkenes
- Glycol Ethers
- Hexamethylene Diisocyanate
- Hydrazine
- Hydrogen Fluoride
- Hydroquinone
- Isopropanol
- Ketones
- Metal Catalysts
- Methyl Bromide
- Methylenedianiline
- Naphthenates
- Nitrosamines
- Olefins
- α-Olefins
- Oleylamine
- Oxo Process
- Petroleum Additives
- Phenol
- Phosgene
- Phthalate Esters
- Polychlorinated Biphenyls
- Rubber Additives
- Sodium Bromide
- Specialty Acrylates/Methacrylates
- Titanium Dioxide
- Toluenediamines
- Tris(chloroalkyl) phosphates
- Vinyl Chloride
- Vinylidene Chloride
- Water Additives

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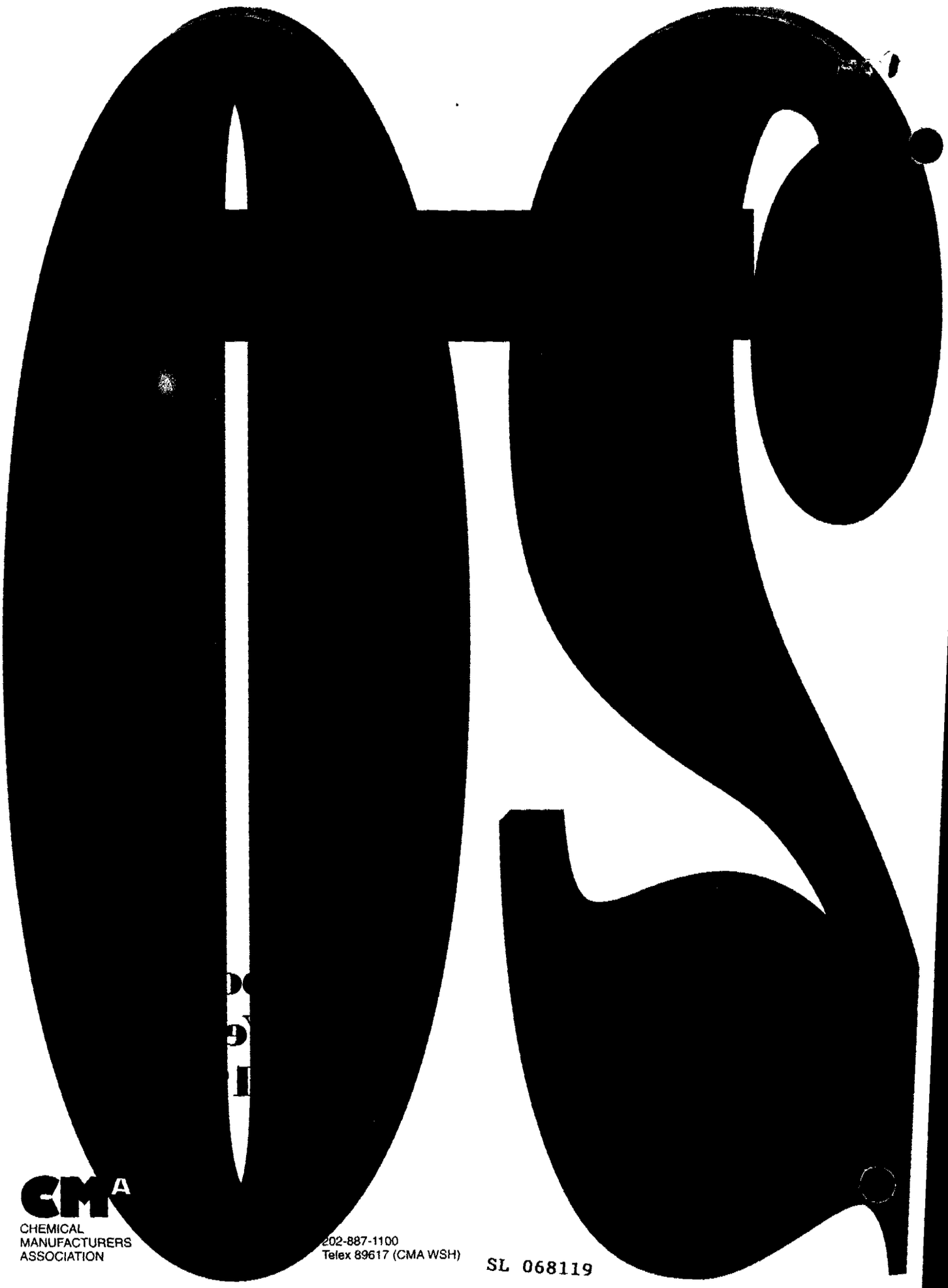

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