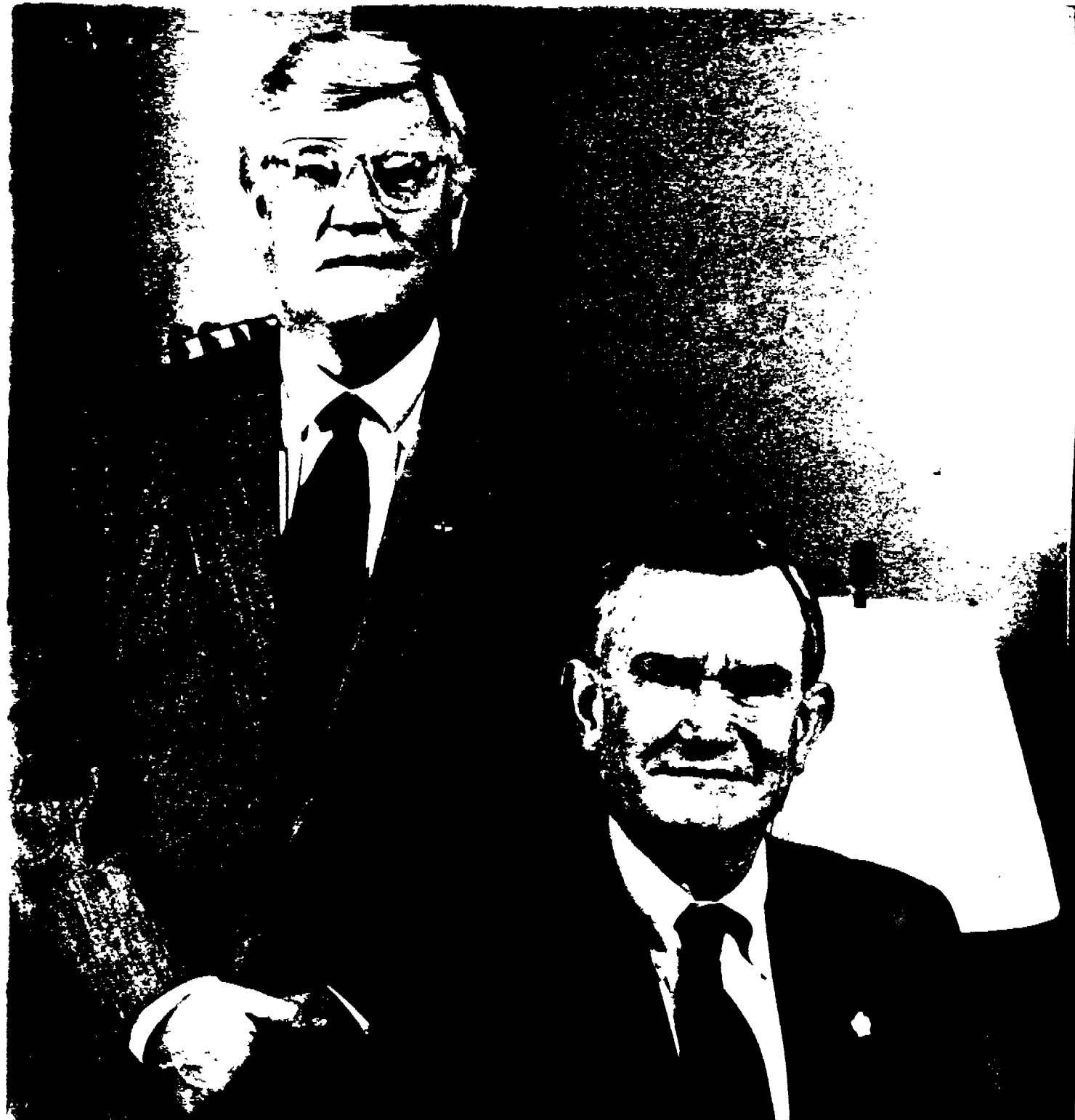


CHEMSTAR

THE SELF-FLUORIDING TECHNOLOGY

A Report On
The Year
1990-1991

CMA 030651



President Robert A. Roland
Chairman Earnest W. Deavenport, Jr.

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CHAIRMAN'S REMARKS

CHEMSTAR Panels and Councils provide substantial benefits to our companies from comparatively modest investments of personnel and money. Whether conducting advocacy, sponsoring research, holding workshops and symposia, or issuing publications, these organizations play significant roles in improving the performance of our industry. Just as importantly, they continue to forge stronger bonds with companies and other industries in the US and abroad. Because of their many and diverse contributions, the Panels and Councils deserve our attention and appreciation.

The Panels and Councils are thoroughly integrated into the CMA framework. In

concert with the Standing Committees they give the industry a comprehensive coverage, from the general to the specific, of issues vital to its economic viability. Our companies will continue to benefit from CHEMSTAR groups only if we place high priorities on awareness of their activities, recognition of our employees' contributions to their successes, and commitment to active participation in their projects.

Earnest W. Deavenport, Jr.
Eastman Chemical Company
Chairman, CHEMSTAR Policy
Committee

PRESIDENT'S OVERVIEW

Quick and versatile responses to members' issues have always characterized CHEMSTAR Panels. Reflecting this responsiveness, Panels continue to grow in number and focus. The Business Councils have taken on the same attributes as the Panels. Accordingly, the Councils already are growing vigorously in number, participants, and emphasis. Together the Panels and Councils form a strong complementary tool for addressing and solving critical concerns of discrete segments of the Association's membership.

CHEMSTAR Councils and Panels are similar in the ways they operate. Both are closely woven into the fabric of the Association's activities. This integration brings them under the purview of various industry initiatives, particularly Responsible Care[®]. Representatives of CHEMSTAR groups have participated in Responsible Care[®] Code development and several Councils are preparing implementation aids in response to Codes.

The activities of the Panels and Councils fall into six broad categories: advocacy, research, education, communication, evaluation, and litigation. Although in the past the Panels concentrated on research and advocacy, we now see education, evaluation and communication increasing in importance.

Panel advocacy produced significant successes this year, saving industry several million dollars in research and reporting costs.

EPA eased regulations on air emissions based on persuasive arguments supported by data from a fugitive emissions study conducted by the Butadiene, Ethylene Oxide and Phosgene Panels. The Agency now cites this study as a benchmark for collection of emissions data on other chemicals. In response to comments from the Fluoroalkenes Panel about lower tier tests conducted under a TSCA Section 4 test rule, EPA rescinded the requirements for additional tests on hexafluoropropene and vinyl fluoride which would have cost over \$2 million. In addition, the Biocides Panel was successful in opposing EPA's proposal for generic approval of data call-ins for FIFRA List A chemicals. The Agency must now get specific approval from OMB for each data call-in and solicit public comment before requiring costly data generation by the industry.

Research is still a major activity of many Panels. During the past year, voluntary programs were completed by the Ethylene Glycol and Alkylphenols and Ethoxylates Panels. Because of successful results from tests sponsored by the Oleylamine Panel, additional test-

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ing will not be required by EPA. In addition, the number of joint research efforts with non-industry groups is increasing. The Acetone Panel is cosponsoring a project with state agencies and industry associations to assess the effects of volatile organic emissions on photochemical ozone formation. In addition, the Hydrazine Panel is exploring a joint project with the Air Force, the Navy and NASA.

Panels and Councils work to educate their members, workers, chemical industry executives, safety personnel, government officials, and the public. The Titanium Dioxide, Hydrogen Fluoride and Phenol Panels each hold regular information sharing sessions at which members discuss ways to improve the safe handling of these chemicals. A Product Approval Code of Practice for engine testing of candidate oils was developed by the Petroleum Additives Panel, and introduced at a recent workshop. "Questions of Quality: ISO 9000 and the Chemical Industry" was published by the Total Quality Council to clarify issues in this important area for company personnel. In addition, the Chlorinated Pool Chemicals Panel prepared a bulletin and videotape on proper procedures for storing and handling pool chemicals to assist customers and first responders.

Various types of communication activities are gaining in importance for Panels and Councils. Members of the Hydroquinone Panel made presentations at Society of Toxicology and Teratology Society meetings. In

addition, the Total Quality Council achieved approval for inclusion of a session on TQM effectiveness at the CMA Chemical Industry Conference.

Panels and Councils initiated more evaluation-focused efforts this year than ever before. Surveys and protocols for assessments of safety, regulatory performance and product performance were launched to fulfill a variety of industry needs. In the survey area, EPA accepted the results of the Biocides Panel's antimicrobial exposure assessment. Phenol Panel members conducted self-audits for safety performance and, on the basis of results, gave awards to members with the year's best safety records. Members of the Chemical Distributors Council began assessing vapor emissions from their facilities as a proactive effort aimed at reducing emissions.

Litigation is viewed as a last resort, but Panels have been effective as petitioners in lawsuits. Filing of *amicus* briefs also allows panel views to be entered into the judicial record with a minimum of expense and effort. The Cumene Panel filed a judicial challenge against EPA seeking definition of "substantial" exposure limits by which the Agency requires extensive testing under TSCA. The Court ruled that EPA did not adequately justify the test rule for cumene. As a result of this ruling, EPA was forced to develop criteria for substantial exposure. Publication of final rules for testing hexamethylene diisocyanate and cyclohexane were delayed. The development of criteria for substantial exposure should result in a

clearer understanding of EPA's rationale for required testing.

Assessment protocols can help reduce the number of assessments performed and also can increase the level of confidence in the results. The Carrier Assessment Council's Motor Carrier Evaluation Protocol, initiated this year, focuses on evaluating highway carriers. Protocols for evaluating other modes of carrier transport are also being discussed by the Council. Through development of a self-audit protocol, the Chemical Distributors Council is seeking to improve and verify the safe handling and storage of chemicals at distribution facilities.

One more event this year deserves special notice: The Fluorocarbon Panel, one of the largest and most influential panels in CHEMSTAR history, concluded its efforts after sponsoring \$24 million in research. We congratulate the many persons whose efforts made the Panel so successful over the past 18 years.

In this time of economic uncertainty and belt-tightening, conservation of corporate resources is especially important. CHEMSTAR panels and councils continue to be excellent means for our members to address specific needs, collectively, in a cost-effective manner.

Robert A. Roland
President
Chemical Manufacturers Association

June 1991

CMA 030654

BUSINESS COUNCILS

Five CHEMSTAR Business Councils are now officially approved by CMA. These 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. During 1990-91, four new councils were organized — Atmospheric Research, Carrier Assessment, Chemical Distributors, and Laboratory and Research Chemicals Councils. All four councils are now fully organized and proceeding towards their initial objectives. The fifth council — the Total Quality Council — successfully completed its first year of operation. At years end, this Council's membership included 29 CMA member companies.

Atmospheric Research



Chartered:
1991

Study Groups:
Management
Science

Chairman:
Ross Stevens
E. I. du Pont de Nemours & Co.

Council Manager:
Elizabeth Gormley

The Council formed to address issues concerning the impact of chemical industry emissions on regional and global atmospheric change. A major focus will be on identifying and resolving scientific uncertainties about effects of increased concentrations of chemicals in the atmosphere. The Council plans to obtain research data that will assist in developing chemical industry positions on such issues as Clean Air Act implementation and global climate change. The data also is expected to help provide a scientific foundation for the industry's position in the debates lead-

ing to a global convention for control of greenhouse gases.

The Council established study groups to develop an operating structure, dues scheme, and a three-year research agenda. During the next year, the Council will continue its membership drive for participation in the research program. A primary goal of the initial research effort will be to develop criteria for use in screening the materials emitted to the air by the chemical industry. ¶

Carrier Assessment



Chartered:
1991

Task Groups:
Executive
Publicity
Standard Assessment Protocol
Third-Party Assessment System

Chairman:
Charles Verna
E. I. du Pont de Nemours & Co.

Council Manager:
Jonathon Busch

The Council formed to address carrier safety issues, including the need for a cost effective means for CMA members to meet the carrier safety provisions of the Responsible Care³ initiative. These provisions require that CMA members establish a process for qualifying carriers that emphasizes safety fitness and regulatory compliance and that includes regular reviews of carriers for safety and regulatory performance. The provisions also require CMA members to maintain a process for providing feedback and suggestions for improvement to carriers on their safety fitness and regulatory compliance. To accomplish these goals, the Council will: develop assessment protocols that can be used to evaluate carriers for safety and regulatory compliance; advocate and facilitate development of an impartial, third-party assessment system for evaluating carriers; and, pursue development of an accreditation process for third-party assessors.

The Council's initial efforts focused on developing an assessment protocol for evaluating motor carriers. The National Tank Truck Carriers and the American Trucking Associations participated with the Council in this effort. The Council also began developing a strategy for establishing a third-party assessment system and a method for accrediting assessors.

The Council plans to develop a pilot program to test its standard assessment protocol for motor carriers and continue working towards a third-party assessment system and an accreditation process for assessors. Council efforts will expand to include developing assessment programs for marine, rail, and air carriers. The Council will develop and maintain liaison with appropriate CMA groups and external organizations as necessary to accomplish its goals. ¶

Chemical Distributors



Chartered:
1990

Task Groups:
Legal Defense
Responsible Care®
Vapor Emissions

Chairman:
Daniel Wenstrup
CHEMCENTRAL Corporation

Council Manager:
Langley Spurlock

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 began developing an implementation aid for the Responsible Care® Distribution Code. The Council also initiated a review of company safety train-

ing materials and began a proactive program of data collection on vapor emissions from facilities of its member companies.

The Council plans to continue its current projects. In addition, the Council will develop an implementation aid for the Product Stewardship Code and address the impact of the HM 181 regulation on chemical distributors. ¶

Laboratory and Research Chemicals



Chartered:
1991

Task Groups:
None

Chairman:
Javid Bashir
Fisher Scientific Company

Council Manager:
Elizabeth Moran

The Council formed to address issues unique to the laboratory and research chemicals industry. Activities will include: 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 sponsor-

ing educational programs to implement objectives of the Council.

The Council will focus first on identifying and analyzing new state legislation and regulations on labelling and transport of chemicals that affect member companies. The Council will advocate harmonization between federal and state requirements. ¶

Total Quality



Chartered:
1990

Task Groups:
Domestic Affairs
Education
International Affairs
Membership
Publicity
Supplier Assessment

Chairman:
Raymond Attebery
Quantum Chemical

Council Manager:
Langley Spurlock

The Council addressed the impact of European requirements for certification of corporate quality systems under ISO 9000 standards. To this end, the Council continued its efforts to facilitate development of a U.S. program of ISO 9000 accreditation and certification that is acceptable outside the U.S. In addition, the Council prepared an informational brochure on ISO 9000, "Questions of Quality," for distribution within the industry, and initiated the development of ISO 9000 implementation guidelines for the U.S. chemical industry.

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; advocat-

ing 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 continue to establish itself as an active player in the U.S. voluntary standards system, intensify efforts to inform the chemical industry about the value of using total quality management principles to improve global competitiveness, promote the use of TQM tools to achieve industry initiatives such as Responsible Care®, and develop a framework for more efficient partnerships with suppliers. ¶

CMA 030656

NEW PANELS

During 1990-91, ten new panels were requested and approved. Manufacturers and users of six individual chemicals — Acetone, Carbon Disulfide, Hydrazine, Methyl Bromide, Sodium Bromide, and Vinyl Chloride — and two chemical categories — Nitrosamines and Toluenediamines — organized. The two other groups were a consolidation — Oxo Process — and a significant expansion of focus — Petroleum Additives — of existing panels. Reasons for organizing range from a need to respond to pending or existing regulations to simply a proactive interest in promoting safety, customer education, emergency response, and better product evaluations. All ten panels are now fully organized and proceeding toward their initial objectives.

Acetone



Chartered:
1991

Task Group:
Toxicology Research

Chairman:
Phillip Casterton
Shell Oil Company

Panel Manager:
Barbara Francis

The Acetone Task Group formed under the Ketones Panel in 1990 to address regulatory concerns of manufacturers, processors, and users. In April, Task Group members decided to become a Panel.

The Panel submitted comments to EPA on the proposed TSCA Section 4 endpoint rule for neurotoxicity and noted that the Agency had overlooked relevant, existing data that provide sufficient information to exclude acetone from the test rule. The Panel is co-funding a two-year research program involving environmental chamber studies of the effects of volatile organic emissions on photochemical ozone formation. Co-sponsors include the Coordinating Research Council, the California Air Resources Board, the South Coast Air Quality Management District, and the National Aerosol Association.

In addition, 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 Panel monitored European regulatory issues such as the occupational exposure standings of the European Community, and the German MAK Commission's reconsideration of the TWA and STEL for acetone. CEFIC and the Panel are exploring technical liaison and information sharing activities.

The Panel plans to address the recent designation of acetone by the Interagency Testing Committee to EPA for testing under TSCA Section 4.7

Carbon Disulfide



Chartered:
1991

Task Groups:
Risk Assessment
Toxicology Research
TSCA Testing

Chairman:
John Stewart
Courtaulds Fibers, Inc.

Panel Manager:
Susan Howe

The Inter-Industry Committee on Carbon Disulfide, a group that formed in 1976 under the auspices of the Man-Made Fiber Producers Association, became a CHEMSTAR Panel in January. The Panel addresses pertinent safety, health, and environmental issues.

In January, the Panel submitted comments on the draft toxicological profile for carbon disulfide developed by the Agency for Toxic Substances and Disease Registry under SARA Section 110. In March, EPA proposed a TSCA Section 4 test rule

for the testing of developmental and reproductive toxicity for carbon disulfide. The Panel submitted comments and testimony to the Agency.

The Panel will continue to work with EPA on the proposed TSCA test rule. Additionally, the Panel plans to coordinate with ACGIH, which recently identified carbon disulfide as a chemical under study for 1991-1992. The Risk Assessment Task Group will address hazard assessment issues.7

Hydrazine



Chartered:
1991

Task Group:
Toxicology Research

Chairman:
Dave Hackathorn
Mobay Corporation

Panel Manager:
Bonnie Bailey

The Panel formed to support hydrazine-related product stewardship activities. The Panel will work with regulatory agencies and other concerned organizations in matters relating to safety and health issues concerning hydrazine.

The Panel submitted an evaluation of the toxicologic database for hydrazine to the American Conference of Governmental Industrial Hygienists. These data support the present TLV for hydrazine, and indicate that hydrazine is a weak animal, rather than human, carcinogen. Panel representatives presented these data to the ACGIH at its March meeting. The Panel also is establishing an open dialog with the Air Force, Navy, and NASA to explore a research program designed to provide the basis for an appropriate TLV for hydrazine.

The Panel is evaluating the classification of hydrazine under the new Clean Air Act and is developing comments regarding the Credit for Early Reduction Proposed Rule. These comments highlight the short half-life of hydrazine and its unique and restricted use, as well as limited exposure. The Panel additionally is sponsoring a one-hour LC50 study to clarify the Hazardous Material Transportation classification of hydrazine hydrate.

The Panel will continue to review and evaluate 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. When appropriate, the Panel will design, sponsor, and monitor additional testing. ¶

Methyl Bromide



Chartered:
1990

Task Group:
None

Chairman:
Frank Handy
Great Lakes Chemical Corporation

Panel Manager:
Bonnie Bailey

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 October.

The Panel currently is working with EPA to satisfy the requirements of several FIFRA data call-ins and the 1986 Methyl Bromide Reregistration Standard. Studies that will fulfill the requirements are expected to be completed within the next four years.

In March, the Panel initiated the global coalition of methyl bromide producers including the Association of Methyl Bromide Industry Japan, the European Methyl Bromide Association, and the Panel. The coalition will respond to international issues about methyl bromide as they are raised by regulatory agencies. The global coalition currently is addressing concerns about the presence of methyl bromide in the atmosphere, and its potential impact on stratospheric ozone. ¶

Nitrosamines



Chartered:
1990

Task Group:
Risk Assessment
Analytical Assessment
Formulation

Chairman:
Mark Thomson
Uniroyal Chemical Company

Panel Manager:
Susan Howe

The Panel formed in June 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 initiated dialogue with OSHA to express concern with the recently published, "Health Hazard Information Bulletin: N-Nitroso Compounds in Industry." The Panel also interacted with FDA and the EPA Office of Drinking Water to

discuss a variety of issues of concern to participating companies.

The Risk Assessment Task Group will author a revision of the chapter on Nitrosamines in "Patty's Industrial Hygiene and Toxicology." Additionally, the Panel will continue evaluating risk assessments for specific nitrosamine-containing compounds. In conjunction with these activities, the Analytical Assessment Task Group will evaluate methods to detect nitrosamines in various environmental media. ¶

CMA 030658

Oxo Process



Chartered:
1990

Task Groups:
2-EH Toxicology Research
EHA Toxicology Research
Butyraldehyde Toxicology Research
Butyraldehyde Environmental Research

Chairman:
Richard Wise
Union Carbide Corporation

Panel Manager:
Bonnie Bailey

The Panel formed from a merger of the Ethylhexanoic Acid Panel, and the 2-Ethylhexanol Panel along with its Butyraldehyde Task Group. This 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 developed comments on the proposed TSCA Section 4 end-point test rules for developmental and reproductive toxicity and for neurotoxicity. The comments address seven oxo process chemicals.

The Panel stated that not all of the chemicals should be subject to testing requirements. The Panel also questioned the scope and nature of the testing required under the proposed neurotoxicity test rule.

The Ethylhexanoic Acid Toxicology Research Task Group established an open

dialogue with EPA and the General Accounting Office to discuss the interpretation of a completed study conducted under a TSCA Section 4 test rule. The Task Group plans to publish results of this test program. The Task Group also focused on demonstrating that there is no significant human exposure to EHA.

The 2-Ethylhexanol Toxicology Research Task Group continued to monitor progress in the oncogenicity studies being conducted in Germany in response to a TSCA Section 4 test rule. The in-life portion of the mouse and rat studies were completed. The final reports are due to EPA in February 1992. The Task Group also voluntarily initiated oral and dermal pharmacokinetic studies and a dermal toxicity study. These data will support toxicity studies and help to determine the potential health risks associated with human exposure. ▀

Petroleum Additives



Chartered:
1990

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

Chairman:
John Sanders
Oronite-Chevron Chemical Company

Panel Manager:
Carol Stack

The Panel formed to interact with regulatory agencies and other organizations. Manufacturers of lubricant and fuel additives expanded the scope of activities of the former Lubricant Additives Panel to include development of a Product Approval Code of Practice for engine testing of candidate oils and response to EPA Clean Air Act regulatory initiatives. The new activities extended beyond the charter of the existing panel. A new Panel and three task groups therefore were established.

The Fuels Detergent Performance Task Group will develop consensus in the industry on EPA's rulemaking under Section 211(l) of the Clean Air Act. Beginning January 1995, the legislation requires that all gasoline sold in the U.S. contain detergents to prevent deposits in engines and fuel supply systems. EPA will establish specifications for these additives by November 1992.

Formerly the Lubricant Additives Panel, the Health, Environmental and Regulatory Task Group pursues research and regulatory activities. A joint CMA/Additives Technical Committee environmental toxicity research program on several classes of lubricant additives is in progress. The data will be used to sup-

port European environmental labeling requirements and anticipated U.S. environmental hazard communication regulations. The Task Group also has committed to participation in the OECD HPV voluntary testing program.

The Task Group filed comments and testified on an EPA ANPR which proposed testing of fuel additive emissions to assess health and welfare effects. EPA drafted the regulations under authority of the Clean Air Act. The Task Group is concerned about EPA initiatives to expand fuel registration and testing to include lubricant additives.

The Product Approval Protocol Task Group promotes development of consistent and reproducible engine testing procedures, cost-effective product approval testing, and product approval protocols. The Task Group interacts with other trade associations and societies that are interested in the product approval process.

The Task Group drafted a voluntary industry Product Approval Code of Practice for candidate engine oils testing. The Code seeks to ensure that engine lubricants meet intended performance levels, to improve cost-effectiveness by fostering improved test precision, to improve

communications by defining standard processes understood by all stakeholders, and to provide for continuous improvement. The Task Group is examining elements of the Code in preparation for implementation in March 1992. To facilitate the process, two Work Groups were formed to develop recommendations on handling of engine test precision

and severity under the Code and to address the handling of minor formulation changes. The Task Group seeks to establish a Monitoring Agency to act as an impartial organization providing industry oversight, as well as administrative and advisory services related to application of the Code. ¶

Sodium Bromide



Chartered:
1990

Task Groups:
None

Chairman:
Louise Wen
Ethyl Corporation

Panel Manager:
Jonathon Busch

The Panel was chartered in August to address health, safety, environmental, and regulatory issues. The Panel has focused primarily on research. The Panel initiated a study that evaluated the relative toxicities of bromine chloride and chlorine to aquatic organisms. This voluntary study involved both freshwater and saltwater species. The final study report will be completed and submitted to EPA in the summer of 1991. Results of the aquatic toxicity research will be used

by EPA in developing water quality-based limitations to control discharges to water from facilities using activated sodium bromide or bromine chloride as treatment chemicals.

Future activities of the Panel will include monitoring and sponsoring research, and developing advocacy positions. The Panel will interact closely with interested organizations, such as the Utility Water Act Group and the EPA Office of Water. ¶

Toluenediamines



Chartered:
1991

Task Group:
Toxicology Research

Chairman:
James LaPrad
BASF Corporation

Panel Manager:
Cecilia Spearing

A Toluenediamines Panel was formed in 1980 to address an EPA ANPR on phenylenediamines, including toluediamines. EPA recommended carcinogenicity testing for TDA, but later decided that testing was not required. Ultimately, EPA referred the matter to OSHA for possible regulation. OSHA did not initiate rulemaking and the Panel terminated in 1987. In March, EPA published the proposed end-point rule under TSCA Section 4 requiring testing for de-

velopmental and reproductive toxicity. 2,4-Toluenediamine was included in the proposed rule. The Panel was reactivated by affected manufacturers to address this rule.

The Panel developed comments which were transmitted to EPA. The Panel also participated in the EPA public meeting on the proposed rule. As development of the test rule proceeds, the Panel will work with EPA and conduct testing as required. ¶

Vinyl Chloride



Chartered:
1991

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

Chairman:
John Coburn
Occidental Chemical Corporation

Panel Manager:
Has Shah

A Vinyl Chloride 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.

In April, the Panel was reactivated by manufacturers to promote greater safety in the transportation of vinyl chloride. The Panel plans to form a mutual aid network to provide technical expertise and assistance at the scene of vinyl chlo-

ride transportation incidents when the shipper cannot respond promptly.

The Panel also will share preventive preparation, response information and establish a communication network. The Panel will validate and enhance emergency response preparation plans and increase the capability in critical areas of the distribution network to deal with transportation accident/incidents involving vinyl chloride. In addition, the Panel will develop recommendations regarding improvements in shipping equipment and procedures to enhance overall industry safety performance. ¶

CONTINUING PANELS

Fifty-three CHEMSTAR Panels are now officially approved by CMA.

CHEMSTAR membership rosters during the year included 250 companies and 21 associations. Among the company members, 98 were members of CMA and 22 were non-US and non-Canadian. Participating companies and associations were represented on panels and task groups by approximately 340 persons with professional skills ranging from physical and biological sciences, through engineering and industrial hygiene to legal and business areas.

Alkanolamines



Chartered:
1982

Task Group:
Toxicology Research

Chairman:
Edward Bentley
Texaco Chemical Company

Panel Manager:
Jonathon Busch

The Panel provided EPA with unpublished health and safety studies and information on production, use, and exposure under TSCA Section 8(d). The Panel also monitored several studies sponsored by the National Toxicology Program. These included range-finding oral developmental studies on monoethanolamine (MEA), diethanolamine (DEA), and triethanolamine (TEA), and a chronic dermal study on TEA. Following subchronic oral and dermal testing of DEA, NTP selected DEA for chronic dermal testing in rats and mice. The Panel prepared a status report summarizing the results of the testing of DEA by NTP.

The Panel completed voluntary dermal developmental studies with rats on MEA and DEA. The Panel submitted data and gave a presentation to the American Conference of Governmental Industrial Hygienists regarding the lack of carcinogenicity of TEA.

The Panel formed to determine the toxicological properties and environmental effects of alkanolamines in response to concern raised by a limited Japanese study implicating TEA as a possible carcinogen in mice. However, results of subsequent published and unpublished studies in rats and mice have indicated that TEA is not carcinogenic.

The Panel will voluntarily initiate dermal developmental studies with rabbits on MEA and DEA. Plans also are underway to voluntarily sponsor *in vitro* and *in vivo* dermal absorption studies on these two alkanolamines. Other plans include publishing research results, developing written comments regarding ACGIH's new carcinogen classification scheme, submitting a proposal to ACGIH to adjust the TLV for TEA, and submitting a petition to EPA to adjust the statutory default RQ for DEA because of its listing in Section 112 of the new Clean Air Act. ¶

Alkylphenols and Ethoxylates



Chartered:
1987

Task Groups:
Dodecylphenol
Environmental Survey
Modeling Study
Toxicology

Chairman:
Richard Bennett
Texaco Chemical Company

Panel Manager:
Robert Romano

The Panel formed the Dodecylphenol Task Group to address the TSCA Section 4 end-point rule on developmental and reproductive toxicity. Manufacturers of dodecylphenol on the Panel were joined by one non-Panel member company on the Task Group.

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 on 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.

In February, the Panel participated in an international workshop on alkylphenols and ethoxylates hosted by the Swedish EPA. The workshop addressed environmental issues and possible alternatives to alkylphenols and ethoxylates.

The Panel will continue to work with the Swedish EPA and agencies of other countries. The Panel also will continue to educate the U.S. regulatory community on the results of Panel research. ¶

Benzene



Chartered:
1976

Task Group:
Toxicology Research

Chairman:
Roger Daniel
The Dow Chemical Company

Panel Manager:
Carol Stack

Panel activity focused on responding to an ACGIH TLV Committee proposal to lower the benzene threshold limit value from 10ppm to 0.1 ppm TWA. The Panel submitted written comments to ACGIH opposing the proposal and provided oral testimony at an ACGIH hearing in March. The Panel found evidence to support the proposal lacking, and stated that the current OSHA PEL of 1.0 ppm TWA more than adequately protected benzene-exposed workers against unreasonable health risks.

The Panel also continued support of a research program on benzene-induced leukemogenesis in cooperation with API. 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's immediate focus will be on basic research; however, regulatory activities are expected to continue in response to EPA regulation of toxic air pollutants under the 1990 Clean Air Act Amendments. ¶

Brominated Flame Retardants



Chartered:
1990

Task Groups:
Analytical Chemistry
Executive Committee
Toxicology Research
Users' Group

Chairman:
David McAllister
Great Lakes Chemical Corporation

Panel Manager:
Has Shah

The Panel continued developing analytical protocols to determine levels of polybrominated dibenzodioxins and furans in commercial samples of eight brominated ethers. These protocols are being developed under the TSCA Section 4 test rule for dibenzodioxins and dibenzofurans. EPA approval of these protocols is expected by September 1991.

In October, the Panel submitted comments on the German Hazardous Substance Ordinance through the European Brominated Flame Retardant Industry Panel. The Panel recommended that if the Ordinance is revised to regulate the concentrations of brominated dibenzodioxins and furans in manufacture, use and disposal of products, it should be limited to 2,3,7,8-substituted brominated compounds. Also, the regulatory values in the revised ordinance should reflect the toxicity difference between chlorinated and brominated dibenzodioxins and dibenzofurans, and the toxicity differences between dioxins and furans. The Panel awaits issuance of the final ordinance.

In December, the Panel provided comments to EPA on the Executive Summary for OECD Cooperative Risk Reduction Activities for brominated flame retardants. The Panel commented that the uses of polybrominated biphenyl oxides and ethers, or products containing them, do not present unreasonable risks to hu-

man health or the environment. The Panel will provide additional comments when the full document is published.

The Panel initiated a research project in March to confirm the blood levels of polybrominated dibenzodioxins and furans in five BASF workers. The results of the actual blood analysis are expected in September 1991.

The consortium 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 regulation on dioxins and dibenzofurans, the publication of pyrolysis studies demonstrating that brominated dibenzodioxins and dibenzofurans can form from brominated diphenyl ethers, and the Interagency Testing Committee's recommendations for health and environmental effects testing of certain brominated flame retardants.

The Panel will continue to work with EPA during reviews of analytical protocols submitted under the TSCA test rule, and will respond to the proposed TSCA Section 4 test rule when it is published. The Panel also will work with EPA in responding to the OECD request to develop a Screening Information Data Set for decabromo-bisphenol-A and octabromodiphenyl oxide. The Panel will

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

continue to monitor European regulatory activities and to coordinate U.S. and European industry on BFRs through its liaison with EBFRIIP. The Panel has sched-

uled a workshop in September 1991, to update users of brominated flame retardants on regulatory, health, environmental, and safety issues. ¶

Much of the Panel's effort was directed toward EPA's implementation of the FIFRA reregistration program. As a result, the Agency made important modifications in pesticide labeling, adverse effect reporting and registration List A generic data call-ins.

The Panel submitted comments on the Phase 3 Reregistration Guidance to EPA and OMB in 1989. Ultimately, OMB authorized EPA to require more extensive adverse effects data in Phase 3 Reregistration than in an earlier policy. The Panel expressed concerns about the manner in which the OMB authorization was granted and plans to pursue this issue to forestall EPA actions against registrants which have complied with the earlier policy.

In 1989, the Panel submitted comments to OMB opposing EPA's request for generic approval of data call-ins for List A chemicals. Panel representatives participated in meetings with OMB and EPA staff concerning the generic approval. OMB reversed its earlier position, limited EPA's authority, and required EPA to submit each data call-in for specific approval. OMB also reserved authority to require EPA, on a case-by-case basis, to substantiate its data call-in requests and to seek public comment concerning its requests.

The Panel successfully promoted a system that will ensure the reregistration of salts in two List B chemical cases that EPA had planned to cancel. The salt forms are found only in formulations and it is the Panel's position that data supporting the reregistration of the free acid forms of the chemicals should support all salts. The Panel obtained reduced paperwork requirements for salts registrants and expects EPA to accept its arguments for reliance on analog data. The agreements reached for these two List B chemicals will serve as models for similar chemical cases on List C and possibly on List D.

Increasing concern about the impact of pesticides on food safety makes it critically important that Congress recognize

industrial biocides as a distinct segment of the pesticide industry. The Panel monitored legislative activities in areas of food safety, pesticide exports, FIFRA Amendments, and registration maintenance fees. Legislative representatives from Panel member companies spent much time visiting Congressional offices, and educating members of Congress and their staffs about industrial biocides. A White Paper highlighting the unique characteristics of industrial biocides was widely distributed.

In April, Panel Chairman Claude Wolf testified before the House Subcommittee on Department Operations, Research and Foreign Agriculture on FIFRA and pesticide regulations. The testimony emphasized the need for distinguishing between agricultural pesticides and industrial biocides because of differences in their characteristics, use-patterns, and exposure potentials.

The Panel continued to monitor the implementation of SB 950 and Proposition 65 in California and provided information and compliance strategy advice to its members. In addition, through its California counsel, the Panel obtained information on litigation and administrative developments under existing regulatory programs, and advance notice of adverse political developments.

In 1990, the Canadian government released a report designed to revamp pesticide registration. The Panel submitted comments on the report and gave input at a meeting in Ottawa in November. The Panel plans to continue its involvement as Canada implements the recommendations in the final report.

The Antimicrobial Exposure Assessment Task Group submitted its exposure assessment study to EPA. The study was accepted by the Agency. The Task Group is developing a means to allow the citation and use of this data by its members and a system to protect the compensability of the data.

The Mercury Compounds Task Group completed aquatic toxicity, avian toxicity, skin sensitization, and subchronic dermal toxicity testing with phenylmercuric acetate in response to EPA reregistration requirements.

The Inorganic Arsenicals Task Force continued to generate data in response to EPA's reregistration standard and a previously issued data call-in. Results from 14 studies were submitted to EPA, and additional studies were initiated at several testing laboratories. In addition, the Task Force continued to negotiate with EPA over other data requirements for reregistration.

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 focus on EPA's implementation of the FIFRA Amend-

ments. EPA is expected to publish a number of wide-ranging proposals to amend the pesticide regulatory scheme during 1991 and anticipates issuing its "safer pesticide" policy. The Panel will monitor and respond to these developments. This policy may have a significant impact on many products registered by Panel members. The impact will in large part depend upon whether EPA decides to cancel the registration of products upon a finding that a "safer" pesticide has been registered for the same use.

Because FIFRA is scheduled for reauthorization, the Panel will monitor legislative activities closely. The Panel will pay special attention to legislation affecting the export of pesticides and maintenance fees.

A number of states are reexamining their regulations of pesticides and have amended, or are planning to amend, their laws and/or regulations. The Panel will continue to monitor these activities and take action to protect the interests of Panel members. The Panel also will continue to monitor the Canadian registration overhaul and will work with agencies to provide scientific input for the development of a better system. ¶

Butadiene



Chartered:
1984

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

Chairman:
Norman Morrow
Exxon Chemical Americas

Panel Manager:
Elizabeth Moran

In August, OSHA published a proposed rule to regulate butadiene exposures in the workplace. The Panel developed extensive written testimony on the workplace standard and then, along with its expert witnesses, presented oral testimony in hearings during January and February. In developing its comments and testimony, the Panel and the major user association, the International Institute of Synthetic Rubber Producers, worked cooperatively. The Panel provided the expertise on toxicology and risk assessment issues and IISRP provided expertise on epidemiology issues. The American Petroleum Institute joined the Panel's efforts by participating in the OSHA rulemaking and by joining the Panel.

The Panel commented on the ATSDR draft toxicological profile on butadiene. The Panel also commented on a California Air Resources Board proposal to list buta-

diene as a Toxic Air Contaminant. In all rulemakings, 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 National Toxicology Program rather than on rat bioassays and epidemiology studies in workers which do not show a consistent response. To provide further information on the potential risk to humans of butadiene exposure, the Panel began a four-year, \$1.5 million research program aimed at understanding the species differences in response to butadiene exposure and at developing data that will support alternative risk assessment methodologies.

The Panel continued its fugitive emissions study, to collect data that can be used by companies in estimating plant emissions more accurately. The Panel also successfully negotiated a consent order

under TSCA Section 4, for testing of 4-vinyl cyclohexene. The consent order focuses on comparing the biological activity of 4VCH to butadiene, thereby saving several million dollars in testing costs. The Panel is voluntarily conducting a workplace monitoring study on 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 continue to follow the development of the OSHA workplace standard on butadiene and is currently preparing post-hearing comments. The Panel also is following development of Clean Air Act Amendments and will comment appropriately. The Panel will continue its research activities and begin consent order testing of 4VCH. In addition, the Panel will interact with IARC, EPA and ACGIH in their evaluations of the cancer classification of butadiene. ¶

Butylated Hydroxytoluene

Chartered:
1977

Task Groups:
None

Chairman:
Vacant

Panel Manager:
Bonnie Bailey

The Panel continued cooperative efforts with the FDA and the European BHT Manufacturers Association (EBMA) 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. The FDA has not yet announced a date for its decision on the Petition.

The Panel is developing a submission to the EPA, requesting that the EPA issue a

regulation acknowledging the prior sanction status of BHT. The Panel is additionally preparing an accompanying information package containing a review of studies previously submitted and new information regarding the EBMA's Chronic Toxicity Study of BHT, *The Role of Hepatocellular Injury in the Chronic Toxicity of BHT*, presently scheduled for completion in early 1992. The Panel will additionally request a review by FASED of the data, supporting the conclusion that BHT is safe under its intended conditions of use in food, before formulating a regulatory position.

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. ¶

Chlorinated Pool Chemicals



Chartered:
1989

Task Groups:
Transportation
Hazard Assessment
Research

Chairman:
Bruce Jacobsen
Olin Corporation

Panel Manager:
Kathleen Roberts

The Panel produced a bulletin and videotape on proper procedures for storing and handling chlorinated pool chemicals. These were distributed in the U.S., Europe, and Japan to educate and train firefighters and other emergency response personnel. The Transportation Task Group drafted a bulletin which contains guidelines for transporting calcium hypochlorite and chlorinated isocyanurates. The bulletin is intended for shippers of pool chemicals and personnel responsible for in-transit storage. The finished bulletin will include information on pertinent federal transportation regulations.

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.

In response to a proposed reclassification of oxidizers by the National Fire Prevention Association, the Panel is investigating testing to assess burn rates of large and small scale fires to provide information on warehousing and packaging of pool chemicals. In addition, the Panel

will sponsor research to measure chloroform releases from swimming pools. The study will measure ambient airborne chloroform concentrations associated with public swimming pools under various conditions in order to evaluate the

indirect production of the chemical. The Panel also will continue to test chlorinated pool chemicals in other research programs to respond to regulatory requirements. ¶

Chlorine Dioxide



Chartered:
1988

Task Groups:
Communication
FIFRA
Office of Drinking Water

Chairman:
Doug Simpson
Olin Corporation

Panel Manager:
Robert Romano

The Panel began a 90-day subchronic study on sodium chlorite in response to FIFRA data call-in requirements. The Panel also is performing environmental tests on chlorine dioxide under the FIFRA reregistration program. The Panel continues to work closely with the EPA Office of Drinking Water on the upcoming standard for sodium chlorite. The Panel published proceedings of the symposium on chlorine dioxide cosponsored with EPA and the American Water Works Association Research Foundation in 1989.

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 moni-

tors 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.

Future Panel activities include completion and final audit of the sodium chlorite subchronic study. Panel representatives will continue to interact with EPA on FIFRA data call-ins and reregistration, and with the Office of Drinking Water. The Panel will undertake additional testing which EPA may require under FIFRA. The Panel will spend a significant amount of time reviewing and commenting on EPA's Chlorine Dioxide Health Advisory Report which is the basis for the Drinking Water Standard. As a follow up to its first successful forum, the Panel is planning a multi-cosponsored international symposium on chlorine dioxide in the spring of 1992. ¶

Chlorobenzenes



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 continues to sponsor research to meet 1,2,4-trichlorobenzene (TCB) testing requirements under TSCA Section 4 and a FIFRA Data Call-In on para-dichlorobenzene (PDCB). A comparative pharmacokinetics study on PDCB was completed and submitted to EPA. The study will be a determining factor in the Agency's decision on the need to conduct multiple species chronic inhalation studies. The manufacturers of TCB have initiated dietary oncogenicity studies in rats and mice.

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 through June 1995, with submission of the final oncogenicity studies reports to EPA. The other primary activity will be compliance with the FIFRA Data Call-In on PDCB. On a voluntary basis, the producers of PDCB also are developing a physiologically-based pharmacokinetics model for use in risk assessment. ¶

Cobalt



Chartered:
1989

Task Group:
Toxicology Research

Chairman:
David Bebout
The Hall Chemical Company

Panel Manager:
Susan Howe

The Panel submitted comments to the Agency for Toxic Substances and Disease Registry (ATSDR) on the draft toxicological profile for cobalt. The Panel suggested that ATSDR prepare a separate profile for radioisotopes, rather than include them in the toxicological profile for cobalt. Additionally, the Panel expressed concern with ATSDR's position that equates the toxicity of all cobalt compounds, pointing out that while cobalt is considered an essential nutrient for humans, some cobalt compounds can be considered toxic, and some cobalt compounds can be considered non-toxic.

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. They interacted with the Cobalt Development Institute in successfully providing valuable information for use in the IARC review.

In the future, the Panel will address industrial and environmental issues that affect cobalt. Issues identified for interaction include: requesting separate RQs for specific cobalt compounds of concern that were included on the CERCLA list, due to the listing of cobalt compounds under the new Clean Air Act; interaction with ACGIH which has listed cobalt compounds as chemicals under study in 1991-1992; and possible interaction with the OECD voluntary testing program for high volume production chemicals. ¶

Cresols



Chartered:
1984

Task Group:
Advocacy

Chairman:
Kirby Boston
Merichem Company

Panel Manager:
Barbara Francis

The Panel submitted final reports for the testing conducted on three cresols isomers under a TSCA Section 4 test rule. After submission of the reports required under the test rule, the Panel formed the Advocacy Task Group to address other regulatory issues. In October, the Task Group submitted comments to ATSDR on the draft toxicological profile for o-, m- and p-cresols. In the comments, the Task Group noted that the Agency had failed to consider the data submitted under the TSCA Section 4 test rule.

The Panel formed in 1984 in response to the TSCA Section 4 test rule. 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 Panel will evaluate EPA's Risk Management assessment of the TSCA Section 4 program when it becomes available. The Advocacy Task Group will continue to monitor cresols regulatory issues and alert the Panel to needs for further activities. ¶

Crystalline Silica



Chartered:
1989

Task Groups:
Administrative
Analytical Methods
Health Effects
Regulatory and Legal

Chairman:
Joseph Shapiro
Unimin Corporation

Panel Manager:
Elizabeth Gormley

Membership in the Panel remained steady at around 50 members. The Panel continued to await the National Toxicology Program's decision on listing crystalline silica in its Sixth Annual Report on Carcinogens as "reasonably anticipated to be a carcinogen." The Administrative Task Group focused on developing a strategic plan and worked closely with the Health Effects Task Group to outline complementary scientific research objectives. Meanwhile, the Regulatory and Legal Task Group organized comments for submission to OSHA and MSHA on the Hazard Communication Standard. The Panel also filed comments on permissible exposure limits for crystalline silica in MSHA's Air Contaminant Rule. The Analytical Methods Task Group selected authors for state-of-the-art reviews which will be used as the basis for discussions at a Panel workshop in fall 1991.

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 action.

The Panel will continue to express its concerns to agencies on the use of automatic triggers for labeling decisions. Panel members will follow up on a request to visit with OSHA officials, and will monitor developments at MSHA and CPSC. The Panel will continue efforts to expand the membership and financial resources to fund a focused research program. The AMTG will continue to plan for a workshop and a related international conference on methods for detecting and analyzing crystalline silica content, now scheduled for August 1992. The Panel will continue to monitor and respond to other technical, regulatory, and legal issues as they arise. ¶

Cumene



Chartered:
1985

Task Groups:
Health Effects
Environmental Effects

Chairman:
Gene Hamilton
Georgia Gulf Corporation

Panel Manager:
Barbara Francis

In compliance with a TSCA Section 4 test rule, the Panel sponsored health and environmental effects and environmental fate testing. The required testing was completed in 1990. The Panel decided to conduct further research to clarify results of the 14-week subchronic study. The Health Effects Task Group is reviewing the draft report of the follow up study, which will be submitted to the EPA in 1991.

Through a judicial challenge, 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.

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 is currently considering whether to petition for removal of cumene from the Clean Air Act Hazardous Air Pollutants List. In addition, the Panel will continue to interact with EPA and other agencies on hazard and risk assessment issues. ¶

CMA 030668

Cyclohexane



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 December 1991. In preparation for the final test rule, the Panel has reviewed bids from various laboratories to perform health effects research. The Panel also informed EPA that it is interested in meeting the data needs by testing under a consent order agreement.

The Panel submitted comments to EPA opposing a SARA Section 313 listing petition filed by the National Resources Defense Council and the Governors of New Jersey, New York, and Vermont. The Panel's comments outlined reasons why cyclohexane does not meet any of the statutory requirements for listing under Section 313. The comments also provided arguments why chemicals hav-

ing only indirect health effects should not be included on the Section 313 list. In addition, the Panel initiated advocacy efforts to eliminate unnecessary reporting under the new Clean Air Act.

Cyclohexane manufacturers 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 how EPA's new TSCA Section 4 exposure finding policy impacts the proposed test rule for cyclohexane. The Panel also plans to comment to EPA on the anticipated TSCA final test rule and will sponsor required research as appropriate. ¶

Dibenzofurans/ Dibenzodioxins

Chartered:
1984

Task Groups:
None

Chairman:
Robert Kaley
Monsanto Company

Panel Manager:
Elizabeth Gormley

The Panel successfully argued its case as an intervenor in the Environmental Defense Fund and National Wildlife Federation appeal of a 1988 summary judgment of their lawsuit against EPA. In the original suit EDF and NWF sought to force the Agency to initiate a TSCA Section 6 rulemaking on dioxins. The federal court ruled in favor of the Agency's right to "set its own priorities" in the face of citizens' petitions. The decision of the lower court was upheld.

The Panel formed when EDF and NWF filed the 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 to the emergence of Toxicity Equivalency Factors being applied in regulatory frameworks, particularly at the state level. ¶

CMA 030669

Diisocyanates



Chartered:
1988

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

Chairman:
James Chapman
Mobay Corporation

Panel Manager:
Cecilia Spearing

The Panel continues to work with EPA to ensure that the Agency has all of the data necessary to make informed decisions during implementation of Title III of the Clean Air Act. A Maximum Achievable Control Technology Task Group was established to explore the effect of these standards on the member companies' operating procedures with specific reference to toluene diisocyanate. During the year, the US Department of Transportation deleted MDI from the Poison Inhalation Hazard Table in its revision of the 1990 Emergency Response Guidebook. Representatives of the Panel and the TSCA Testing Task Group met with the Executive Director of the Interagency Testing Committee, select members of the Committee and EPA to address 25 of the 43 isocyanates in the intent to designate category of its 26th Report to the EPA Administrator.

The Panel formed to develop and disseminate information on the safe handling of diisocyanates, including: toluene diisocyanate, methylene-bis(diphenyl) diisocyanate, 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 being developed. Emergency Response Preparedness Guidelines for methylenediphenyl diisocyanate and toluene diisocyanate will be prepared under the auspices of the Panel. The Panel is establishing a Transportation Task Group to examine the impact of HM-181 on packaging standards for the shipment of MDI. Conversations between the Panel and the EPA Test Rules Development Branch to develop appropriate responses under TSCA Section 4 will continue. The Panel also will continue to interact and coordinate activities with SPI, the Polyurethane Foam Association, and the International Institute on Isocyanates. ¶

Dinitrotoluenes



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 is conducting a pharmacokinetics study. The results of this study will be submitted to the agencies in late 1991. In addition, the U.S. member companies have provided environmental release information on 2,6- and 2,4-dinitrotoluene to the EPA.

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 will submit the pharmacokinetics study to the German and U.S. agencies and will continue to interact with them to assess results. ¶

CMA 030670

Ethylen Dibromide



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

Chartered:
1974

Task Groups:
None

Chairman:
Vacant

Panel Manager:
Kathleen Roberts

The Panel did not participate in any new activities this year.

The Panel originally formed to address Federal and State agencies in all safety and health issues arising out of 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 voluntarily sponsored studies of chronic inhalation, metabolism, and teratogenicity.

The Panel will continue to monitor agency activities and take action as appropriate. ¶

Ethylene Glycol



Chartered:
1986

Task Group:
Toxicology Research

Chairman:
William Snellings
Union Carbide Corporation

Panel Manager:
Kathleen Roberts

The Panel completed its voluntary research program. The Panel formed to augment the toxicological data base. In particular, the Panel focused on the potential for developmental toxicity and pharmacokinetics research in mice and rats.

The Panel will continue its activity by addressing federal regulatory issues, such as the Clean Air Act, CERCLA, and RCRA.

In addition, the Panel intends to monitor and respond to pending state legislation. The Panel is interested in investigating ethylene glycol denaturants and their effectiveness in reducing accidental poisonings. With the data generated from the voluntary research program, the Panel may conduct a risk assessment which would be used to respond to regulatory concerns. ¶

Ethylene Oxide



Chartered:
1981

Task Groups:
Scientific
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 cofunded an EO pharmacokinetics physiological modeling study being conducted at CIIT. The EOIC also tracked the reauthorization of the Clean Air Act, which could affect EO production facilities. The results of the EOIC field bagging study for fugitive emissions were accepted by EPA and will be used by the Agency in its Fugitive Emissions Regulation. In addition, EOIC worked with ATSDR to determine the fate of the SARA Section 110 EO toxicological profile report. The EOIC began an EO epidemiology analysis because the epidemiology studies do not agree with the results of the animal studies. In March, the Panel also sponsored another successful "EO Information Exchange" workshop on transportation and safety issues related to EO production. The Industrial Hygiene Task Group continued to evaluate additional

protective clothing materials for EO penetration and breakthrough.

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, as will a broad review of all EO epidemiology data. The EOIC industry-wide fugitive emissions bagging study results will be made available to all members to aid in further quantifying EO emissions for SARA Section 313 reporting and risk assessment. More "Information Exchange" workshops focusing on safety and handling of EO are planned by the Panel. ¶

Fluoroalkenes

Chartered:
1987

Task Groups:
Specific Chemicals Producers
Specific Chemicals Toxicology

Chairman:
Sharron Laas
E. I. du Pont de Nemours & Co.

Panel Manager:
Kathleen Roberts

In compliance with a TSCA Section 4 rule, the Panel conducted mutagenicity, subchronic toxicity, and oncogenicity testing on four fluoroalkene monomers — vinyl fluoride, vinylidene fluoride, hexafluoro-propene, and tetrafluoroethene. Most of the testing program was completed and the results submitted to EPA for review. The exceptions, the vinyl fluoride and vinylidene fluoride oncogenicity studies, will be submitted to EPA in early 1992.

At an EPA TSCA Section 4 Public Program Review, the Panel provided comments on lower tier testing under the test rule. Based on those comments, EPA decided to rescind the requirements for the hexafluoro-propene and vinyl fluoride heritable translocation assays. In addition, after reviewing the results from

a mouse micronucleus test, the Agency rescinded the requirement for an oncogenicity study with hexafluoropropene.

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

The Panel is awaiting EPA's review of the vinyl fluoride alkaline elution and unscheduled DNA synthesis tests to determine if the mouse specific locus test will be required. The Panel plans to continue its interaction with EPA in the evaluation of the fluoroalkenes testing requirements. ¶

CMA 030672

Glycol Ethers



Union Carbide Chemicals and Plastics

Chartered:
1980

Task Group:
Toxicology Research

Chairman:
Richard Wise
Union Carbide Chemicals and Plastics
Company 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 the development of a physiologically-based pharmacokinetics model for EGBE risk assessment. The Panel is conducting a developmental neurotoxicity study on triethylene glycol methyl ether required under a TSCA Section 4 test rule.

The Panel commented on the EPA TSCA Section 4 endpoint test rule for neurotoxicity and presented oral testimony at the EPA hearings. Ethylene glycol monoethyl ether (EGEE) is among the ten chemicals proposed for testing. The comments seriously questioned the inclusion of EGEE in the proposal since all the EPA-based criteria for listing were not met. A final ruling is anticipated in the spring of 1992.

The Panel plans to file a petition to delist certain glycol ethers from the category of glycol ethers listed as toxic air pollutants in the Clean Air Act amendments. A pre-petition conference was held with EPA/OAQPS staff to discuss the category problem and the application of EPA delisting criteria to the glycol ethers. A petition to delist diethylene glycol butyl ether and its acetate, and the triethylene glycol ethers is under preparation. Petitions to delist other members of the category may be developed and filed at a later date.

The Panel monitored state activities and responded to regulatory and legislative initiatives in Illinois and South Carolina, respectively. In Illinois, the Panel was successful in removing EGBE from a list of toxic air pollutants. The effort in South Carolina to remove the glycol ethers category, and list only those of toxicological concern, was not successful. In Texas, the Panel worked through the Texas Chemical Council to request formulation of a definition for glycol ethers on the Texas Air Control Board's Standard Exemption List.

Panel manufacturers of EGME and EGEE and their acetates are tracking regulatory developments within OSHA. A notice of Proposed Rule to establish new workplace standards will be published shortly.

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 will complete testing under TSCA, and voluntary testing is expected to continue with possible involvement in the OECD HPV testing program. In the advocacy arena, the Panel will pursue delisting efforts as they relate to the CAA, and will monitor state activities. The Panel also will petition EPA to raise the reportable quantity of certain glycol ethers under CERCLA to greater than one pound. ¶

Hexamethylene Diisocyanate



Chartered:
1988

Task Group:
Toxicology Research

Chairman:
Donald Lamb
Mobay Corporation

Panel Manager:
Kathleen Roberts

The Panel prepared for the TSCA Section 4 Test Rule by identifying candidate testing laboratories and requesting proposals and bids.

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

"substantial or significant" exposure finding under TSCA Section 4(a)(1)(B). Due to a Court directive requiring EPA to develop criteria to support this finding, the Agency had to delay the publication of the final test rule. When EPA completes the development of the required exposure standards, it will judge the testing needs.

The Panel will proceed with the TSCA Section 4 testing program as soon as EPA issues the final rule. ¶

Hydrogen Fluoride



Chartered:
1988

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

Chairman:
James Muir
Allied-Signal Inc.

Panel Manager:
Elizabeth Gormley

After much preparation by an ad hoc study group of management contacts from producers as well as users groups, the Panel held an exploratory meeting in January. The purpose of this meeting was to explore inclusion of users and suppliers of raw materials as members, and expansion of the Panel focus to include advocacy activities. Since then, the Panel has more than doubled its membership, offering a tiered dues structure and levels of membership. The Panel has added a Management Group to provide oversight and guidance as well as an Advocacy/Communications Task Group.

The expanded Panel submitted comments to California's South Coast Air Quality Management District (SCAQMD) expressing concern over a proposed ban on the use of HF. The Panel also monitored the passage of the Clean Air Act provi-

sion relating to HF and planned how to respond to EPA's need for information to complete the mandated study, due in late 1992. The Task Groups accelerated their activities and timetables for participation in advocacy initiatives.

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

The Panel will continue to follow and participate in EPA's program to prepare a study of the industry. The Panel also will consider whether to participate in a lawsuit filed against the SCAQMD. The Task Groups will continue to focus on completion of the initial set of recommended guidelines. ¶

CMA 030674

Hydroquinone



Chartered:
1984

Task Group:
Toxicology Research

Chairman:
Robert Brothers
Eastman Kodak Company

Panel Manager:
Jonathon Busch

The Panel completed a required 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. The Panel awaits a response from the Agency. If EPA accepts the Panel-sponsored research, then the Panel will have achieved its research objectives.

The Toxicology Research Task Group published abstracts of Panel-sponsored research, and gave poster-presentations on the research at 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 them with summaries and final reports of the Panel-sponsored studies.

The Panel formed in response to a proposed TSCA Section 4 test rule published by EPA in 1984. Subsequently, the Panel submitted extensive comments 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 peer reviews of NTP carcinogenicity bioassays of hydroquinone with rats and mice.

The Panel plans to publish the findings of its research program in appropriate scientific journals. The International Agency for Research on Cancer (IARC) identified hydroquinone as a priority chemical for review in 1991. The Panel will ensure that its published research findings are available to IARC for use in its evaluation.

Isopropanol



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 last, a two-year oncogenicity study, was started in February.

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 monitor studies required under the test rule as well as interact with EPA regarding interpretation and evaluation of the test results.

Ketones



Chartered:
1980

Task Group:
Toxicology Research,

Chairman:
James Quance
Exxon Chemical Company

Panel Manager:
Barbara Francis

The Panel submitted comments to EPA on the inclusion of methyl isobutyl ketone in the TSCA Section 4 proposed endpoint rule for developmental/ reproductive toxicity and neurotoxicity testing. Panel comments cited numerous overlooked studies as a reason for excluding MIBK from the final rule.

The National Sanitation Foundation, at the request of solvent cement manufacturers, is evaluating methyl ethyl ketone for accreditation for use in substances that may occur in potable water. To assist the solvent cement manufacturers, the Panel provided data to NSF and became actively involved in the accreditation review.

The Panel submitted comments in response to ATSDR's identification of priority data needs for isophorone and three other chemicals under SARA Section 110. Based on the negligible potential for human exposure to isophorone at NPL sites, and because many of the research needs have been filled through voluntary studies, the Panel is advocating that isophorone be given a low priority for further

regulatory action. ATSDR concurred and the recently announced list of 38 priority chemicals does not include isophorone.

The Panel formed to address EPA activities on methyl isobutyl ketone, methyl ethyl ketone, isophorone, and mesityl oxide. 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 and filed a petition for review of the final TSCA Section 4 test rule. The Court asked the Agency to reconsider the test rule in light of significant changes in MO use.

The Panel is currently negotiating with EPA to resolve the mesityl oxide testing issue through a consent agreement. The Panel is considering volunteering MEK, MIBK, and MO for the OECD HPV Existing Chemicals Screening Program. Additionally, the Panel will explore liaison with the CEFIC Oxygenated Solvents Committee. ¶

Metal Catalysts



Chartered:
1984

Task Groups:
Environmental Regulations
Industrial Hygiene

Chairman:
William Deering
Gulf Chemical and Metallurgical Company

Panel Manager:
Susan Howe

The Panel submitted comments in July to the California Department of Health Services to support a recommendation to add nickel and nickel compounds to the list of chemicals which present no significant risk of cancer by the route of ingestion. The Panel submitted comments in October to the EPA Office of Drinking Water on the proposed rule to establish MCLGs and MCLs for nickel and nickel compounds. In February, the Panel submitted comments to ACGIH on the proposal to lower the TLVs for all nickel compounds to 0.05 mg/m³. Due to cooperation with the Nickel Producers Environmental Research Association, Institute of Scrap Recycling Industries, Inc., and the National Association of Metal Finishers, the industry comments were successful in persuading ACGIH to keep nickel in the "intend to change" category until September 1992.

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 is continuing liaison with NiPERA, ISRI, NAMF, and the European Catalysts Manufacturers Association. The Industrial Hygiene Task Group will develop information on the economic impact on industry should ACGIH lower the TLVs for all nickel compounds. The Task Group also will respond to the proposed OSHA PEL update scheduled for Winter 1991. The Environmental Regulations Task Group plans to address import/export of waste regulations developed under the RCRA, as well as the publication by ATSDR in Fall 1991, of priority data needs for nickel and chromium compounds. ¶

CMA 030676

Methylenedianiline



Chartered:
1982

Task Groups:
Risk Assessment Medi-
cal & Toxicology
Analytical and Indus-
trial 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 1991. ¶

Naphthenates



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. ¶

Oleylamine



Chartered:
1984

Task Groups:
None

Chairman:
Edwin Bisinger
Akzo Chemicals Inc.

Panel Manager:
Susan Howe

In 1989, the Panel completed the first tier of the TSCA Section 4 Test Rule. Due to the results, EPA has stated that the Panel will not have to conduct the additional studies under the second and third tier requirements of the test rule.

The Panel formed in response to the proposed test rule under TSCA Section 4 requiring pharmacokinetics, genetic ef-

fects, subchronic toxicity (including neurotoxicity and reproductive tract effects), and teratogenicity data.

The Panel is awaiting the outcome of the Agency's further evaluation of the test data. With the original research objectives fulfilled, the Panel will decide on future activities in Fall 1991. ¶

Phenol



Chartered:
1988

Task Groups:
Regulatory
Toxicology Research
Video

Chairman:
Edwin Fraini
Dow Chemical USA

Panel Manager:
Susan Howe

Panel members shared information on OSHA's Lockout/Tagout Rule, safety programs used in plant shutdown situations, safety motivation, reduction of human errors in the workplace, and operator certification and training. The Panel completed the first self-assessment by member companies of worker safety in phenol-producing plants, using the Pro-Active Safety Index. The first annual awards ceremony was held in September at which Texaco Chemical Company was recognized as the Industry Leader in Safety Performance, and Georgia Gulf Corporation was recognized for the Most Improvement in Safety Performance. The Regulatory Task Group submitted comments on the ITC designation of phenol for TSCA Section 4 testing. The ITC recommended testing for: oral and inhalation pharmacokinetics; inhalation subchronic; reproductive effects; and neurotoxicity. The Toxicology Research Task Group initiated a voluntary pharmacokinetic research program evaluating the comparative profiles of phenol disposition by oral bolus, drinking water and

inhalation routes. The Task Group is working closely with EPA to coordinate this research with the proposed testing under TSCA Section 4.

The Panel formed to promote greater safety in the production, transportation and use of phenol. Member companies exchange nonproprietary safety information on topics that relate to transportation and handling issues that involve phenol. Health and environmental issues concerning phenol are addressed by the Regulatory Task Group. The current research program is monitored by the Toxicology Research Task Group.

The Panel is exploring production of a video on the safety, handling and transportation issues concerning phenol that will target worker and customer safety. Additionally, the Panel is investigating the presentation of a seminar on safety in loading and handling. The Regulatory Task Group will continue to monitor and address the TSCA Section 4 test rule, the Clean Air Act, RCRA reauthorization and the development of OCPFS regulations.

Phosgene



Chartered:
1972

Task Groups:
Engineering and Safety Practices
Environmental
Industrial Hygiene
Medical and Toxicology

Chairman:
W. E. Irby
Mobay Corporation

Panel Manager:
Robert Romano

The Panel continued its sponsorship of research at New York Medical College on treatment methods for accidental exposure to phosgene. The research now focuses on canine in-life studies and has identified several medications that are effective in treatment of phosgene exposure. The Panel also is sponsoring studies in phosgene air dispersion modeling and mitigation. The Panel continues its phosgene industrial hygiene surveys.

The Panel formed to improve industry ability to safely manufacture, handle, and use phosgene. Predicting and controlling ambient concentrations of phosgene

from accidental releases has become an important Panel objective.

The proceedings of the Panel-sponsored international symposium, "Remote Monitoring: Current Technology and Future Developments Applicable to Air Toxics, Including Phosgene," will be published in 1991. The Panel will continue its regular program of information exchanges among member companies on safety techniques. In addition, the Panel will continue monitoring increasing regulatory interest in phosgene. The Panel plans to conduct a workshop on countermeasures to phosgene exposure in September 1991.

CMA 030678

Phthalate Esters



Chartered:
1973

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

Chairman:
Jeffrey Felder
Monsanto Company

Panel Manager:
Marian Stanley

Due to comments submitted by the Panel, the Chesapeake Bay Advisory Committee removed di-2-ethylhexyl phthalate (DEHP) from the list of Toxics of Concern under the Chesapeake Bay Toxics Reduction Program.

The Panel commented on the proposed Ambient Water Quality Criteria for Protection of Aquatic Life and the Proposed National Primary and Secondary Drinking Water Regulations. Comments also were submitted on the inclusion of phthalate esters in the Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities proposed rule.

In continuation of the Panel's cooperative program of information exchange with the CEFIC Plasticizers Sector Group, Panel members attended the third joint meeting of the two groups held in Berlin, Germany in May. The two groups will continue meeting annually, and plan to pursue some joint projects during the next year.

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 being conducted under a consent order.

Reproductive and developmental toxicity of phthalate esters appears to be the least well understood of all the research questions facing the Panel. To further understanding, the Panel has contracted with an expert to review and analyze the published and unpublished literature. The outcome of the review will be a published article in a peer reviewed journal. The work in particular will be used to support the Panel's advocacy in California.

Later in 1991, the Panel will complete the first phase of environmental testing being conducted under a consent order. The Panel will work with ATSDR and EPA to avoid inappropriate or unnecessary testing requirements on DEHP, DBP and other phthalates under SARA 110. 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 CAA amendments, and develop a strategy for deleting phthalic anhydride from the air toxics list. ¶

CMA 030679

Polychlorinated Biphenyls



Chartered:
1981

Task Groups:
None

Chairman:
John Craddock
Monsanto Company

Panel Manager:
Elizabeth Gormley

The Panel and the National Electrical Manufacturers Association submitted comments on PCB maximum contaminant levels and goals under the Safe Drinking Water Act. The two associations also followed up with a petition to EPA to reconsider the analytical method of choice. The Panel along with NEMA and the Edison Electric Institute's Utility Solid Waste Activities Group began preparations for response to an EPA announcement of a proposed rulemaking on PCB disposal issues, particularly the cleanup of old spills. This industry coalition also testified at hearings of the California Science Advisory Panel, advocating that PCBs not be considered reproductive toxicants under the provisions of Proposition

65 and of the State of Massachusetts Department of Environmental Protection on cleanup standards.

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 industry coalition await the publication of EPA's ANPR. The Panel also will follow the emerging concern of Toxicity Equivalency Factors being applied to PCBs in a regulatory framework, particularly at the state level. ¶

Rubber Additives



Chartered:
1979

Task Groups:
Toxicology Research
MBT
MBT Joint Test Sponsors/Importers of Rubber Articles

Chairman:
Michael Smith
The Goodyear Tire and Rubber Company

Panel Manager:
Susan Howe

With the completion of the study, "Two-Generation Reproduction Study in Rats with MBT," the MBT Task Group fulfilled the requirements of the TSCA Section 4 test rule for 2-mercaptobenzothiazole. Final reports from all of the testing required by EPA have been submitted and the Panel is awaiting the outcome of the Agency's evaluation.

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.

A layman's summary of each of the studies performed under the TSCA test rule will be completed in Fall 1991. The summary will be used to disseminate the test results to the joint test sponsors and importers of rubber articles containing MBT. The Panel also will address environmental issues in the near future. ¶

Specialty Acrylates/ Methacrylates



Chartered:
1987

Task Groups:
Scientific Issues
Membership
Regulatory Issues

Chairman:
Georjean Adams
Minnesota Mining and Manufacturing Company

Panel Manager:
Marian Stanley

The Panel made progress in the first tier of toxicological tests that are part of a three-stage research program agreed upon with EPA. The Agency was informed of the progress and made several valuable contributions to the testing protocols. The Panel commented 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, formulators, and users of these chemicals.

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

CMA 030680

Titanium Dioxide



Chartered:
1977

Task Groups:
None

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 titanium dioxide 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 was successful in having NIOSH re-examine its position. The Panel also began developing a new air emissions model for titanium tetrachloride. 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 discussed 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 to control releases. In other efforts, the Panel also submitted a petition to EPA to adjust the RQ for $TiCl_4$, submitted an epidemiology study on $TiCl_4$ to NCI, and submitted scientific data to the publisher Van Nostrand Reinhold. These latter efforts were successful in having the hazard rating for titanium dioxide lowered in the publication, *Dangerous Properties of Industrial Materials* (Eighth Edition, Sax and Lewis, editors).

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, to provide scientific data to NIOSH and other interested organizations, and to develop advocacy positions on proposed regulations. ¶

Trimellitate Esters



Chartered:
1983

Task Groups:
Toxicology Research
Terephthalic Acid

Chairman:
Dean Finney
Eastman Chemical
Company

Panel Manager:
Elizabeth Moran

The Terephthalic Acid (TPA) Task Group convinced EPA to delete TPA from the list of chemicals requiring annual emissions reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA). EPA had proposed to delist TPA, but wanted to make delisting contingent on results of testing that would be required under TSCA Section 4. Task Group comments convinced EPA to delist immediately so that companies will not be required to report TPA emissions for 1990. The Task Group also commented on the proposed endpoint test rule for reproductive effects testing of terephthalic acid.

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.

When EPA completes its review of the data on TOTM, the Panel will work with Agency scientists to interpret the test data and to determine the need for additional testing. The Task Group will continue to monitor the development of the proposed TSCA testing on TPA. ¶

CMA 030681

Vinylidene Chloride



Chartered:
1974

Task Groups:
None

Chairman:
Zeb Bell
PPG Industries, Inc.

Panel Manager:
Kathleen Roberts

The Panel provided comments to the California Air Resources Board regarding categorization of air pollutants and participated in a meeting with the National Air Pollution Control Techniques Advisory Committee. As background for its efforts to have EPA withdraw its proposed TSCA Section 4 test rule, the Panel monitored ATSDR's prioritization of vinylidene chloride and designation of data needs. The Panel began an investigation into a TEAM study and a corresponding report associating vinylidene chloride with a list of cancer risks associated with indoor pollutants.

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 respond to ATSDR and EPA testing proposals and will monitor other regulations as they occur. ¶

Water Additives



Chartered:
1985

Task Groups:
Specific Chemicals

Chairman:
Randy Deskin
American Cyanamid Company

Panel Manager:
Robert Romano

The Panel has filled data gaps for ultimate certification under the consensus Water Additives Standards. The Panel continues addressing data needs for the following chemicals: polydiallyldimethylammonium chloride (PDADMAC), copolymers of epichlorohydrin and dimethylamine (EPI/DMA), and polyacrylamide (PAM). The Panel has task groups for each of these chemicals which have performed an exposure assessment and sponsored tests. The toxicological tests included Ames, rat micronucleus, rat teratology, and 90-day subchronic. The Panel met with toxicology staffs from each of three certification organizations.

The Panel formed to address regulations of direct and indirect potable water additives. The objectives are to monitor regu-

latory 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 has decided to work with the National Sanitation Foundation in developing a water additive certification program for PDADMAC, EPI/DMA and PAM. 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 developed for use by each member company, with ultimate certification by NSF for each of the three chemicals. ¶

CMA 030682

COMPLETED PANELS

2-Ethylhexanol



Chartered:
1986

Task Groups:
Toxicology Research
Butyraldehyde
Butyraldehyde Environ-
mental
Butyraldehyde Toxicology

Chairman:
Richard Wise
Union Carbide Chemicals & Plastics
Company Inc.

Panel Manager:
Has Shah

The Panel decided to merge with the 2-Ethylhexanoic Acid Panel in October of 1990 to form a Panel of chemicals involved in the oxo process. The newly formed Oxo Process Panel will address a broader range of chemicals.

The 2-EH Panel formed to address the TSCA Section 4 test rule issued by EPA at the request of the National Toxicology Program. NTP requested this testing when budget cuts forced the cancellation of its two-year rat and mouse bioassay. The final rule was published in August 1989.

The Toxicology Research Task Group continued to monitor the oncogenicity studies in progress at BASF in Germany. The Panel initiated dermal and oral pharmacokinetic studies that are scheduled for completion in late 1991.

The Butyraldehyde Environmental Research Task Group conducted a survey to

gather information on the production and use of butyraldehyde in the U.S. The survey provided data on worker, general population, and environmental exposure levels. The survey was submitted to EPA in response to an ITC recommendation that health and ecological effects testing be conducted under TSCA Section 4 if significant worker and general population exposure to the chemical was demonstrated. The survey, which included all producers and several major users of butyraldehyde, showed very low workplace, general population, and environmental exposure levels. The Task Group concluded that health and environmental effects studies are not warranted. Data from an EPA independent assessment of the exposure levels was similar to that of the Panel. The Task Group awaits a decision from EPA on the test rule.

Further activities involving 2-EH will be conducted under the Oxo Process Panel. ¶

Fluorocarbons



Chartered:
1973

Task Groups:
None

Chairman:
Robert Orfeo
Allied-Signal Inc.

Panel Manager:
Elizabeth Gormley

No new activities were undertaken by the Panel this year. A brochure outlining the history of the Panel, "Searching the Stratosphere," was published. The Panel completed all research work in progress and terminated in September.

The Panel formed to fund research to determine the environmental fate of chlorofluorocarbons. Throughout its lifetime, the Panel supported projects totalling more than \$26 million. Sponsored stud-

ies addressed atmospheric chemistry, atmospheric measurements, modelling, and trend analysis. The Panel focus broadened in recent years to include the monitoring of developments in the climate change and biological effects research areas.

A report listing the investigators and summarizing the results of all the projects funded by the Panel will be published in late 1991. ¶

Lubricant Additives



Chartered:
1985

Task Group:
Environmental Research

Chairman:
Charles Keller
Exxon Chemical Company

Panel Manager:
Carol Stack

When the Petroleum Additives Panel formed, the Lubricant Additives Panel was absorbed as a task group. As the Health, Environmental and Regulatory Task Group, the former Panel has focused on lubricant and fuel additives.

The Panel organized to address anticipated international marine pollution control regulations. An immediate concern was the need to generate marine aquatic toxicity data to support proper pollution categories for bulk shipments and to investigate the efficient stripping of unloaded tankers

The Panel was largely successful in meeting its original goals. It sponsored studies and submitted data on ATC classes of lubricant additives to the IMO Bulk Chemical Handling Committee which used the information in assigning the additives to pollution categories.

As a Task Group of the Petroleum Additives Panel, future activities will depend on developments in the health, environmental and regulatory areas. ¶

CMA 030683

CHEMSTAR COUNCILS AND PANELS FINANCIAL STATUS

For the Twelve Months Ended May 31, 1991

	COUNCILS & PANELS	Balance June 1, 1990	Contribution Receipts	Interest Revenue	Expenditures	Balance May 31, 1991
1	Atmospheric Research	0	30,000	100	6,000	24,100
2	Carrier Assessment	0	85,000	0	32,800	52,200
3	Chemical Distributors	0	55,000	1,300	34,800	21,500
4	Total Quality	56,800	65,000	7,100	56,100	72,800
5	Acetone	0	74,200	300	10,600	63,900
6	Alkanolamines	22,500	269,900	8,200	113,800	186,800
7	Alkylphenols and Ethoxylates	487,900	35,000	33,800	284,600	272,100
8	Benzene	398,700	0	21,100	322,100	97,700
9	Biocides	835,800	815,000	72,500	832,000	891,300
10	Brominated Flame Retardant	21,900	777,500	9,800	600,700	208,500
11	Butadiene	151,900	1,595,300	16,500	1,069,100	694,600
12	Butylated Hydroxytoluene	32,300	28,000	1,900	38,700	23,500
13	Carbon Disulfide	0	81,000	700	74,700	7,000
14	Chlorinated Pool Chemicals	20,800	72,700	2,300	67,600	28,200
15	Chlorine Dioxide	31,300	239,000	3,900	112,900	161,300
16	Chlorobenzenes	683,200	280,200	45,900	591,600	417,700
17	Cobalt	21,600	60,000	1,300	52,900	30,000
18	Cresols	44,300	42,500	3,900	40,000	50,700
19	Crystalline Silica	68,600	108,000	4,000	157,900	22,700
20	Cumene	353,200	56,100	24,700	244,600	189,400
21	Cyclohexane	19,500	30,000	1,600	51,400	(300)
22	Dibenzofurans/Dibenzodioxins	10,200	5,000	900	5,200	10,900
23	Diisocyanate	55,400	180,000	4,500	167,700	72,200
24	Dinitrotoluenes	155,100	0	11,100	37,400	128,800
25	Ethylene Dibromide	0	0	0	0	0
26	Ethylene Dichloride	4,900	0	400	0	5,300
27	Ethylene Glycol	104,900	0	4,700	85,800	23,800
28	Ethylene Oxide	110,900	422,300	10,500	196,400	347,300
29	Fluoroalkenes	339,600	96,500	22,300	213,400	245,000
30	Fluorocarbons	1,070,600	0	46,700	942,300	175,000
31	Glycol Ethers	591,500	342,900	49,900	412,700	571,600
32	Hexamethylene Diisocyanate	400	9,000	200	1,300	8,300
33	Hydrazine	0	15,000	100	9,500	5,600
34	Hydrogen Fluoride	22,400	147,900	2,400	85,600	87,100
35	Hydroquinone	20,200	0	1,000	18,200	3,000
36	Isopropanol	678,700	1,439,400	72,600	1,301,800	888,900
37	Ketones	207,000	385,300	18,200	309,100	301,400
38	Metal Catalysts	29,500	96,200	1,700	71,700	55,700
39	Methyl Bromide	0	209,200	2,600	56,500	155,300
40	Methylenedianiline	53,300	0	3,600	11,600	45,300
41	Nitrosamines	0	50,000	800	40,400	10,400
42	Oleylamine	12,400	0	1,000	800	12,600
43	Oxo Process	1,393,600	325,600	122,200	327,700	1,513,700
44	Petroleum Additives	33,500	292,200	7,400	89,700	243,400
45	Phenol	31,900	119,500	3,600	112,500	42,500
46	Phosgene	192,600	66,000	15,100	112,400	161,300
47	Phthalate Esters	1,359,600	656,000	110,000	715,100	1,410,500
48	Polychlorinated Biphenyls	58,700	62,000	6,000	67,700	59,000
49	Rubber Additives	222,700	1,700	14,500	90,000	148,900
50	Sodium Bromide	0	51,100	900	30,600	21,400
51	Specialty Acrylates/Methacrylates	794,100	310,000	81,700	158,300	1,027,500
52	Titanium Dioxide	9,800	44,300	1,200	43,300	12,000
53	Trimellitate Esters	42,100	0	3,000	14,100	31,000
54	Vinyl Chloride	26,000	0	1,900	4,300	23,600
55	Vinylidene Chloride	43,800	0	2,900	27,500	19,200
56	Water Additives	426,400	180,000	32,900	259,100	380,200
57		<u>\$ 11,295,300</u>	<u>\$ 10,071,500</u>	<u>\$ 910,900</u>	<u>\$ 10,684,900</u>	<u>\$ 11,593,100</u>
58						

CMA 030684

FINANCIAL RESOURCES

Each panel and council is required to maintain a CASH COMPENSATING BALANCE which recognizes that CMA signs all contracts on behalf of the panels and councils, 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 and Councils at the beginning of Fiscal Year '90-91 was about \$11.3 million. On this date, CMA had financial liabilities totalling about \$6 million under 180 executed contracts on behalf of the various panels.

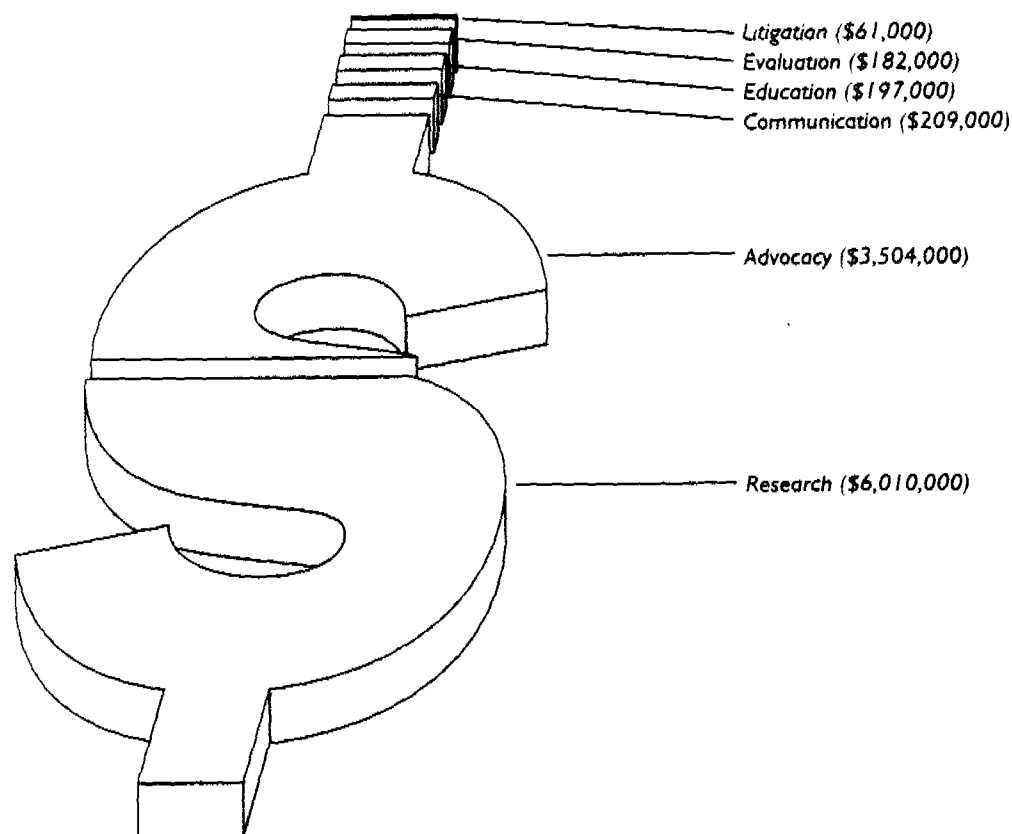
INTEREST on the unexpended cash balances provides supplemental revenue for each CHEMSTAR Panel and Council. This year, panels and councils earned a combined total of approximately \$919 thousand in interest income.

EXPENDITURES of CHEMSTAR Panels and Councils are based on budgets approved by each group. In Fiscal Year '90-91, panels and councils spent a collective total of \$10.8 million for research, consultants, legal counsel and panel/council management.

Figure 1

CHEMSTAR PANELS AND COUNCILS

Financial Allocations

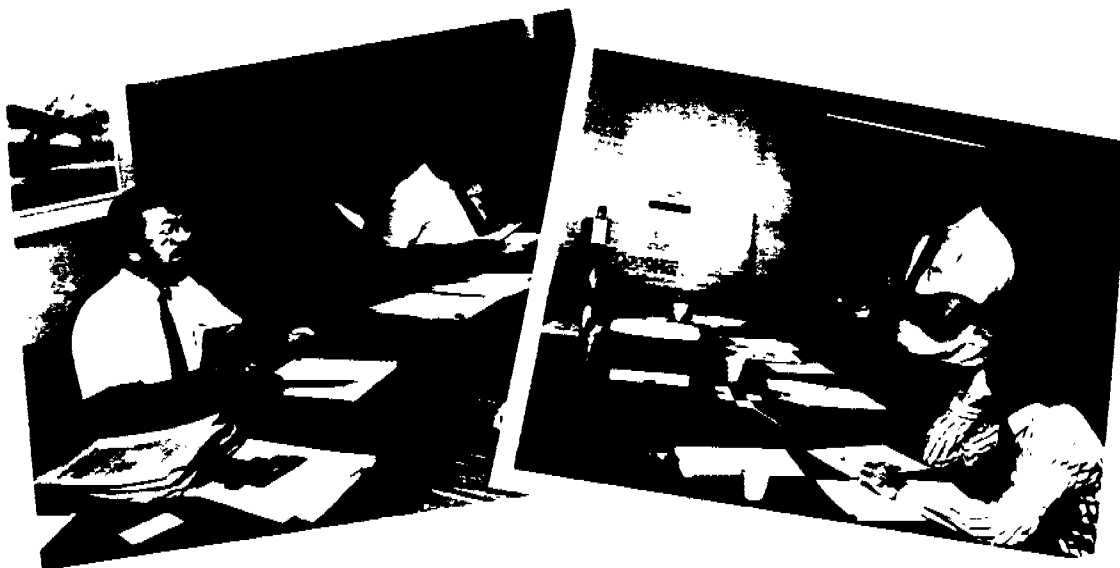
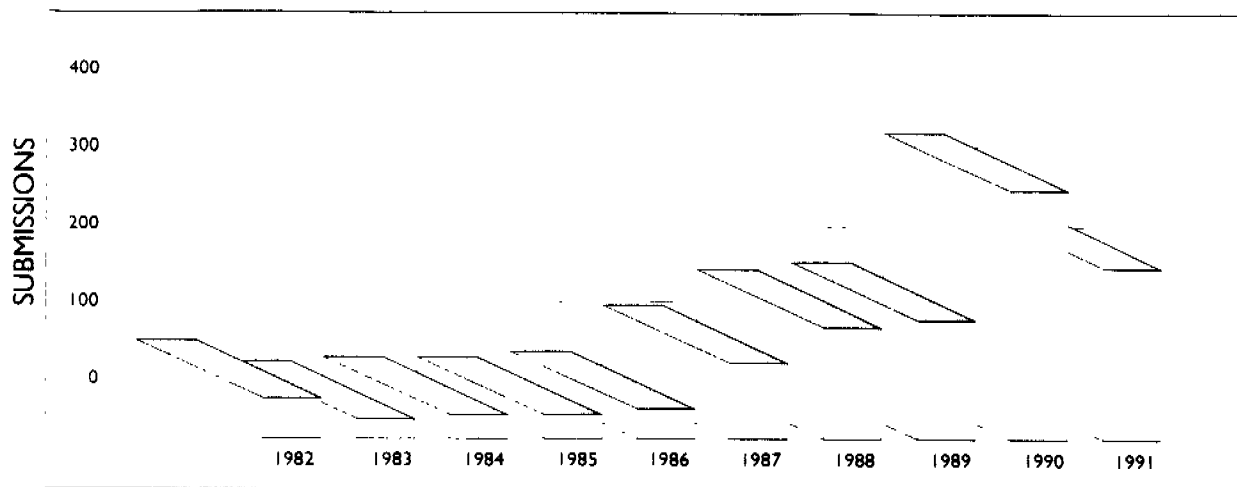


CMA 030685

Figure 2

CHEMSTAR PANELS AND COUNCILS

Submissions to Government Agencies



Advocacy Planning: Chlorinated Pool Chemicals Panel

CMA 030686

REGULATORY AFFAIRS

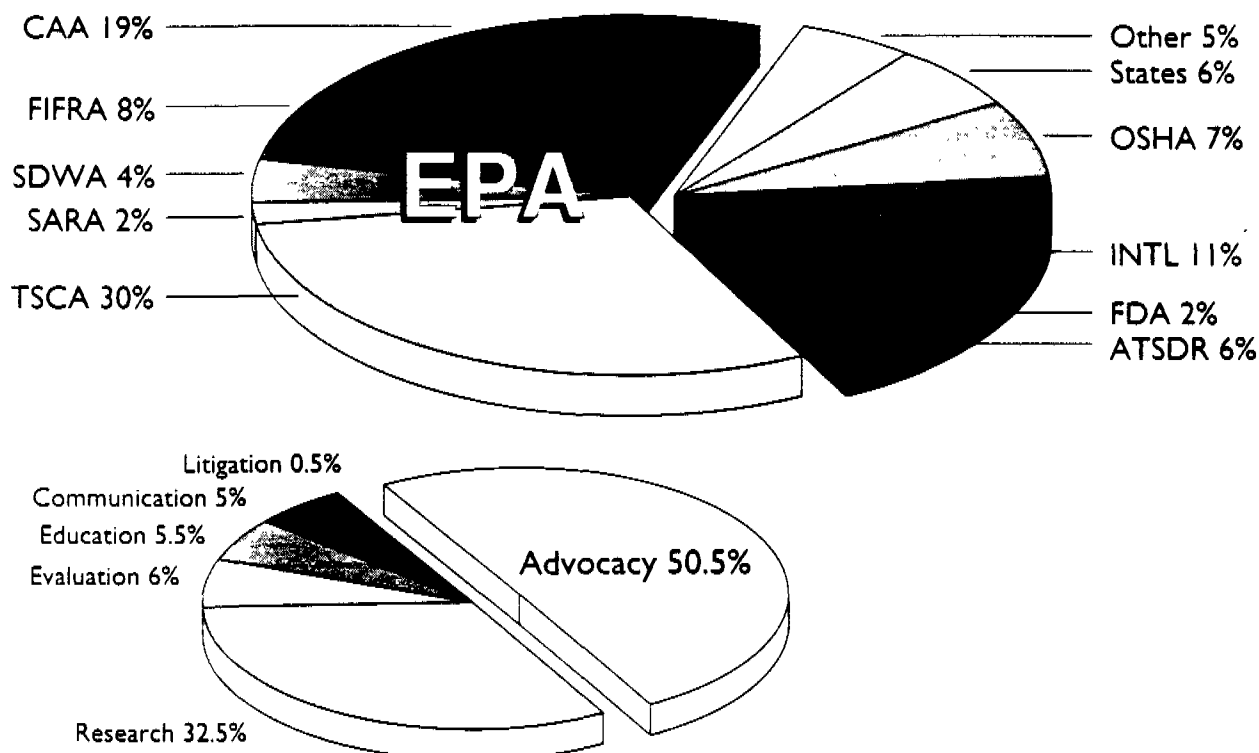
During the year, 51 CHEMSTAR Panels focused their efforts on regulatory issues. Panels submitted comments on pending regulations, and research data, to many federal, state and international agencies.

Of all federal agencies, EPA received the greatest attention from panels. TSCA Section 4 is the chief concern of 23 panels. The growth in environmental regulations of individual chemicals continued, causing increased panel focuses on the Clean Air Act in particular. Among other federal agencies, the Agency for Toxic Substances and Disease Registry, Food and Drug Administration, Occupational Safety and Health Administration, Mining Safety and Health Administration and the National Toxicology Program caused panel actions.

Among state agencies, the California Department of Food and Agriculture attracted the most panel activity. This attention was due to Proposition 65 implementation and data call-ins on industrial chemicals. Reflecting the increased global focus of the industry, international agencies, especially the Organization for Economic Cooperation and Development, the United Nations Environment Programme, U.S. Department of State, International Maritime Organization, and the Food and Agriculture Organization/World Health Organization were significant panel focuses.

Figure 3

CHEMSTAR DIVISION Staff Time Allocations

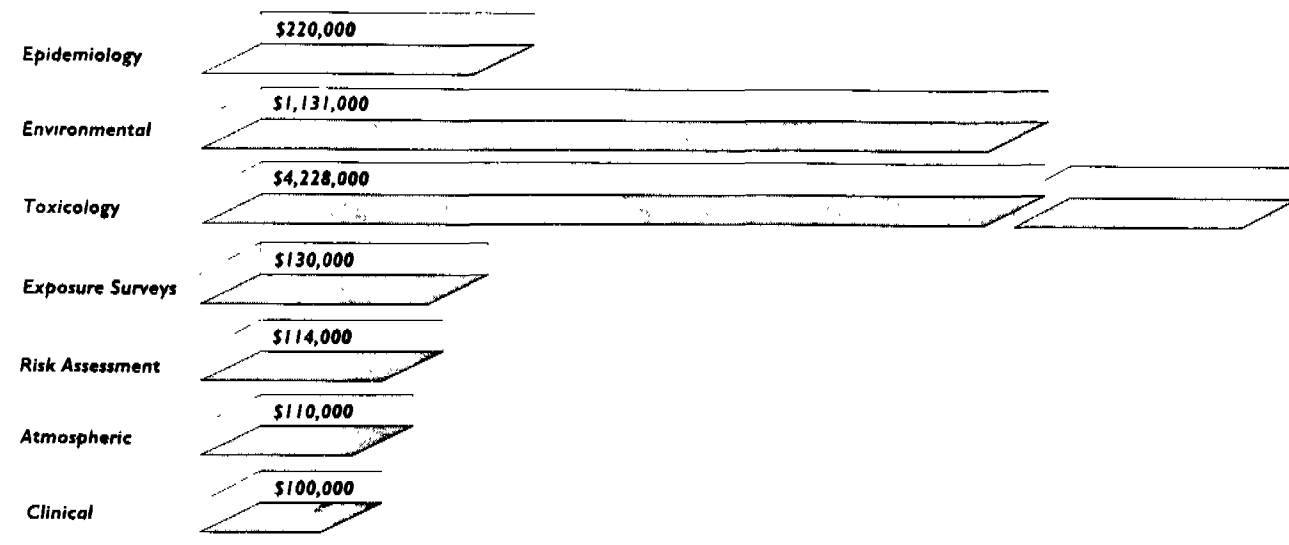


CMA 030687

Figure 4

CHEMSTAR PANELS

Summary of Research Expenditures



Research Review: Alkylphenols and Ethoxylates Panel

CMA 030688

RESEARCH

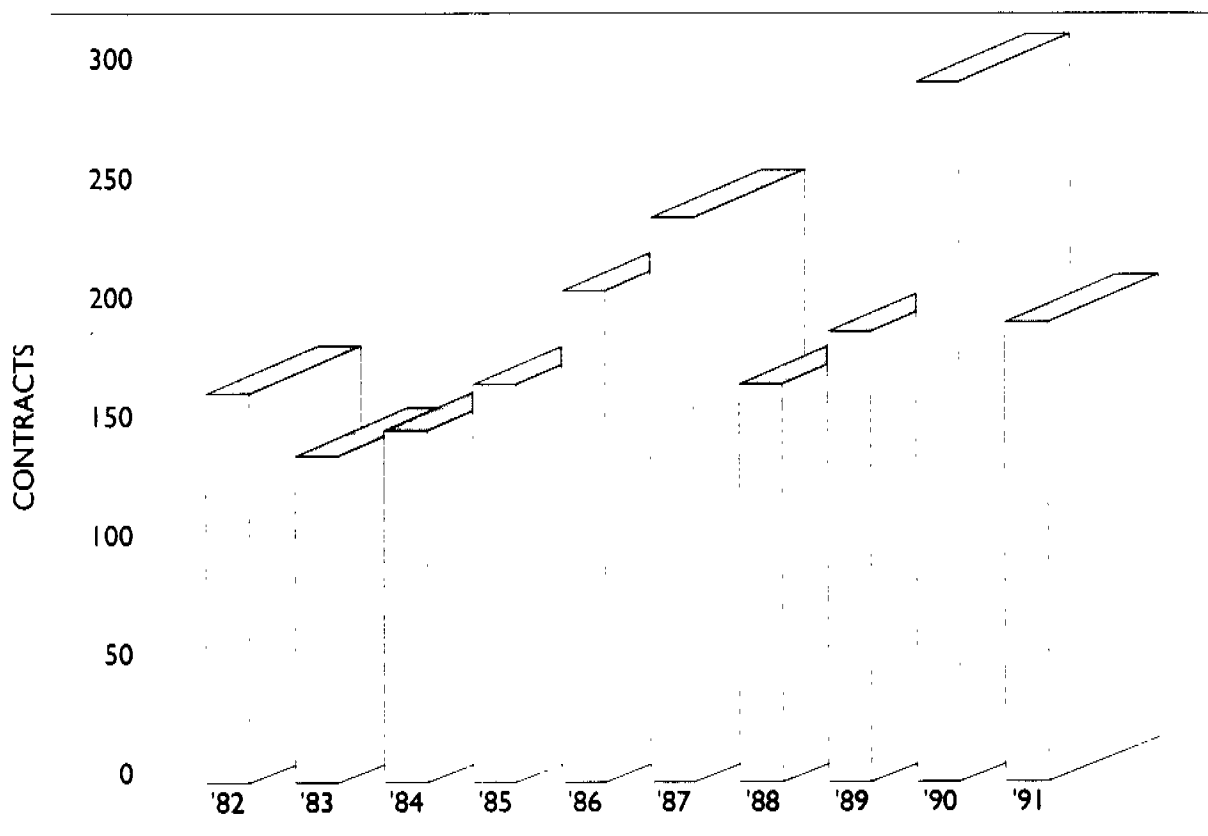
Forty-five CHEMSTAR Panels sponsored some form of research. The trend this year was toward fewer, but larger, projects. Health effects studies were a major focus. Toxicological research involved subchronic/chronic, mutagenicity, reproductive and developmental effects, oncogenicity and pharmacokinetic studies. Direct effects on humans were investigated by several panels through epidemiology and clinical research. Risk assessments and exposure surveys were other forms of research undertaken by nearly a quarter of all CHEMSTAR Panels. Environmental studies continued this year with larger budgets, reflecting greater interest in air and water regulations, in particular.

Testing required under TSCA Section 4 was initiated by several 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 simply because of research findings rather than direct regulatory concerns. "Proactive" research continues to be a significant part of CHEMSTAR Panels scientific efforts.

Figure 5

CHEMSTAR DIVISION Summary of Contracts Managed



CMA 030689

GUIDANCE

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:
Ernest W. Deavenport, Jr.
Eastman Chemical Company



Vice-Chairman:
Ernest Drew
Hoechst-Celanese Corporation



Geraldine V. Cox
Vice President-Technical Director
CMA



Gary C. Herrman
Vice President-Treasurer
CMA



David F. Zoll
Vice President-General Counsel
CMA

Staff Executive:
Langley A. Spurlock
Deputy Technical Director, CHEMSTAR Division
CMA

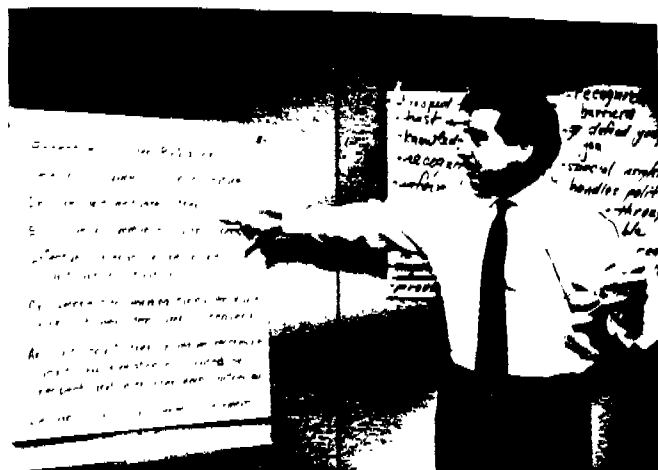
CMA 030690

MANAGEMENT SERVICES

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

Leadership Training

The annual CHEMSTAR Leadership Session was held in January, and attended by eight 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 fall 1991.



Above and Below Left: Leadership Sessions

Communications

Ensuring industry awareness of panel and council activities remained a high priority for the CHEMSTAR Division. 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. Through the "Spotlight" article in each issue, the accomplishments of individual panels and councils are summarized. This year, the Hydroquinone, Rubber Additives, Fluorocarbon and Phenol Panels 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. In 1990-91, the Division issued two Alerts — one on the Interagency Testing Committee's 27th Report to the EPA; and the other on the OECD High Production Volume Existing Chemicals Testing Program.

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. Cecilia Spearing filled the newly created position of Senior Panel Manager, bringing the management staff to twelve persons, all with technical degrees.

Kathleen Roberts and Bonnie Bailey also joined the staff as Panel Managers. In



recognition of her superior achievements, Marian Stanley was promoted to Senior Panel Manager within the CHEMSTAR Division.

In further recognition, at year's end, Langley Spurlock was promoted to CMA Assistant Vice President, Technical Services Department and CHEMSTAR Division Director.

Legal Counsel

The panels and councils were strongly 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 an-

titrust 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 intensively supported Division managers in drafting and negotiating the nearly 200 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.

Director, CHEMSTAR Division

Langley A. Spurlock, Ph.D., CAE

Dr. Spurlock completed his ninth year as Director of the CHEMSTAR Division in June. He is responsible for oversight of all 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. 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 the Direc-

tor, 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, and 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. He also 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.[†]

CMA 030692

Carol R. Stack, Ph.D.

Dr. Stack joined CMA and the CHEMSTAR Division in 1980. She is currently responsible for management of the panels on benzene, chlorobenzenes, glycol ethers, and petroleum additives.

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 multi-chemical 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. ¶

Associate Directors

Elizabeth Festa Gormley, B.A.

Ms. Festa Gormley joined CMA and the CHEMSTAR Division in 1983. She is responsible for the management of the Dibenzofurans/Dibenzodioxins, Polychlorinated Biphenyls, Hydrogen Fluoride, 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 Gormley worked in the Endocrine Biochemistry section of the National Institute of Arthritis and Metabolic Diseases 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 Gormley earned a B.A. in Chemistry from Albertus Magnus College. ¶

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.

Dr. Moran is a biochemist and Board Certified Toxicologist. She is currently on the Editorial Board of the Journal of Toxicology and Environmental Health, and 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 February 1985, he joined the CHEMSTAR Division as an Associate Director. He continued this year as manager of the panels on chlorine dioxide, ethylene dibromide, ethylene oxide, phosgene, water additives, and alkylphenols and ethoxylates.

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. ¶

CMA 030693

Senior Panel Managers

Jonathon Busch, MBA

Mr. Busch joined CMA and the CHEMSTAR Division in April 1990. He is responsible for the management of the Carrier Assessment Council and panels on alkanolamines, cyclohexane, hydroquinone, titanium dioxide, and sodium bromide. He also has been involved in activities of the Methyl Bromide, Fluoroalkenes, and Vinylidene Chloride 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 holds 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 March 1989. She is responsible for the management of the panels on acetone, cumene, cresols, dinitrotoluenes, and ketones.

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 US Air Force in Europe. Ms. Francis holds 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 June 1989. She is responsible for the management of the Carbon Disulfide, Cobalt, Metal Catalysts, Nitrosamines, Oleylamine, 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 holds 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 as a Senior Panel Manager in the CHEMSTAR Division in January 1991. She is responsible for management of the panels on isopropanol, diisocyanates, and toluenediamines. When the next phases of the OECD Existing Chemicals Voluntary Testing Program are activated, she will manage a panel composed of U.S. companies that will sponsor testing.

Before coming to CMA, Ms. Spearing was Project Coordinator, US Army Medical Research and Development Command Peer Review Panels, in the Special Sci-

ence 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 holds 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 Sciences. ¶

CMA 030694

Marian K. Stanley, MBA

Ms. Stanley joined CMA and the CHEM-STAR Division staff in May 1990. She is responsible for the management of the panels on specialty acrylates/methacrylates and phthalate esters.

Prior to joining CMA, Ms. Stanley was a Technical Project Manager with Squibbmark. Previously, she was em-

ployed as both a development and analytical chemist at Union Carbide Corporation.

Ms. Stanley holds an MBA in Pharmaceutical Studies from Fairleigh Dickinson University, and a B.S. in Chemistry from Pratt Institute. ¶

Panel Managers

Bonnie Bailey, M.S.

Ms. Bailey joined CMA and the CHEM-STAR Division staff in November 1990. She is responsible for the management of the Methyl Bromide, Sodium Bromide, Butylated Hydroxytoluene, Hydrazine, and Oxo Process Panels. Prior to joining CMA, Ms. Bailey was an environmental

analyst with Technology Applications, Inc.

Ms. Bailey holds a B.S. in Microbiology from American University, and is completing a M.S. in Environmental Science from George Mason University. ¶

Kathleen Roberts, B.S.

Ms. Roberts joined CMA and the CHEM-STAR Division in April 1991. She is responsible for the management of the panels on ethylene glycol, fluoroalkenes, chlorinated pool chemicals, hexamethylene diisocyanate, ethylene dichloride, and vinylidene chloride. She also manages the Fuels Detergent Performance Task Group under the Petroleum Additives Panel.

Prior to 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, Ms. Roberts 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. ¶

Counsel

Robert D. Ondocsin, J.D.

Mr. Ondocsin became Counsel to the CHEMSTAR Division in 1991.

Mr. Ondocsin 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 anti-trust issues and manages retained counsel.

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.

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. ¶

CMA 030695

DIVISION STAFF



From left to right:

Hasmukh Shah, Elizabeth Moran, Bonnie Bailey, Susan Howe, Marian Stanley, Langley Spurlock, Robert Romano, Barbara Francis, Jonathon Busch, Elizabeth Gormley, Cecilia Spearing, Kathleen Roberts, and Carol Stack.

CMA 030696