

CHEMSTAR

AN ANNUAL REPORT ON THE STATE OF THE ENVIRONMENT AND THE CHEMICAL INDUSTRY

A REPORT
ON THE YEAR
1993-1994

CMA 030814



CHEMSTAR

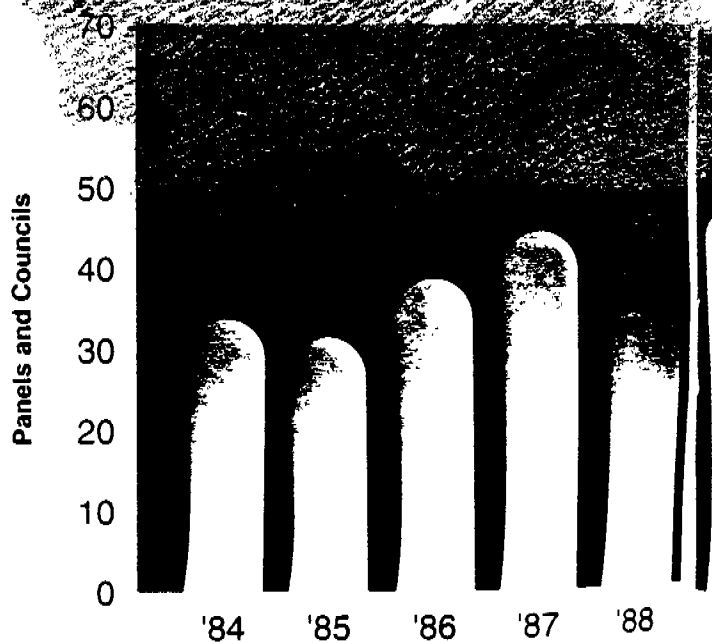
Chairman's Remarks

CHEMSTAR Panels and Councils serve our companies' interests in a wide variety of ways. Fundamentally, they give us cost-effective, collective formats for pursuing our specialized interests in products or business operations. But this description doesn't do justice to the accomplishments of over one-thousand company personnel who serve as members of the Panels, Councils and their task groups. This Annual Report describes the many recent achievements of some of our industry's finest professionals. On behalf of the CMA Board of Directors, and especially the CHEMSTAR Policy Committee, I salute the Panel and Council members for their excellence in support of our industry. I encourage executives of all our companies to recognize these people for their contributions to our success.

Larry Rankin

Larry Rankin
Betz Laboratories, Inc.
Chairman, CHEMSTAR Policy Committee

CHEMSTAR Panel and Council Growth



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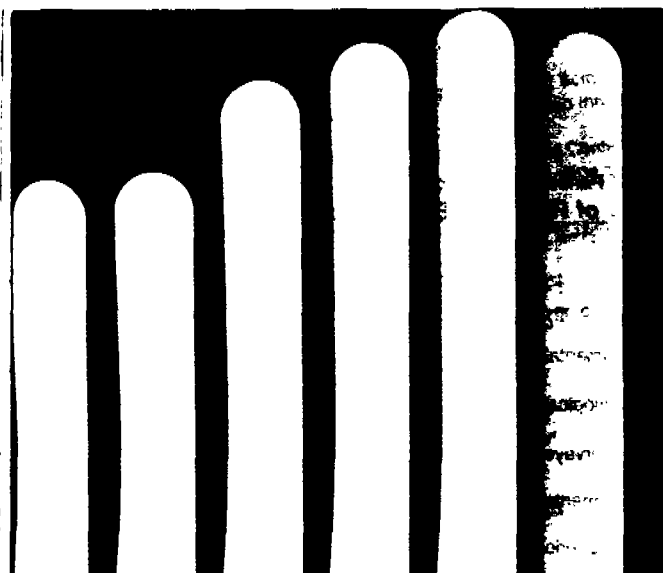
President's Overview

I am delighted to announce that in April the Board approved formation of a separate CHEMSTAR Department. Also at that time, Langley A. Spurlock, Ph.D., CAE was selected to serve as the Vice President for CHEMSTAR. Elevation to a Department reflects the growing importance of CHEMSTAR to CMA and the chemical industry. It is also a testament to the hard work and support of the many member company representatives who participate in CHEMSTAR panel and council activities.

Specific issue group activity began at the Association in 1972, when the Phosgene Panel was chartered. Since that time, CHEMSTAR has grown to include the activities of over 200 organizational groups (67 panels and councils and their associated task groups) addressing advocacy, research, education, communication, evaluation and litigation efforts. These efforts are supported full-time by the 35 staff members of the CHEMSTAR Department, and many other members of the CMA staff.

Please join me in congratulating Langley, his talented staff of dedicated professionals, and the many member company representatives who work on panel and council activities. We look forward to a future of continued good work and exciting new services to the industry.

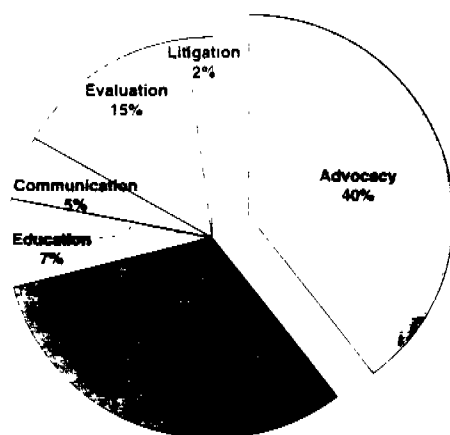
Frederick L. Webber
President and Chief Executive Officer
Chemical Manufacturers Association



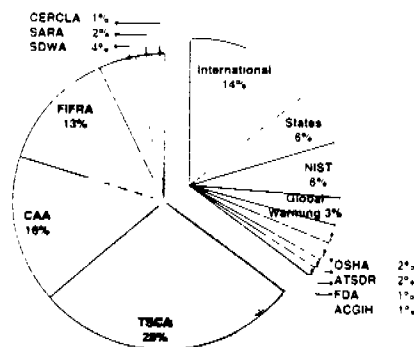
'89 '90 '91 '92 '93

OVERVIEW: 1993-1994

AMOUNT: Fifty-six CHEMSTAR Panels and Councils addressed regulatory actions. Forty percent of staff time was spent on advocacy activities. **METHOD:** Groups submitted comments on pending regulations and research data to a variety of federal, state and international agencies. **FOCUS:** TSCA Section 4 is the chief concern of 30 panels. Environmental regulations of individual chemicals also continued to be significant focuses. Attention to FIFRA regulations increased as did attention to activities of CERCLA, ACGIH and NIST. International activities continued high as a growing concern for many groups.

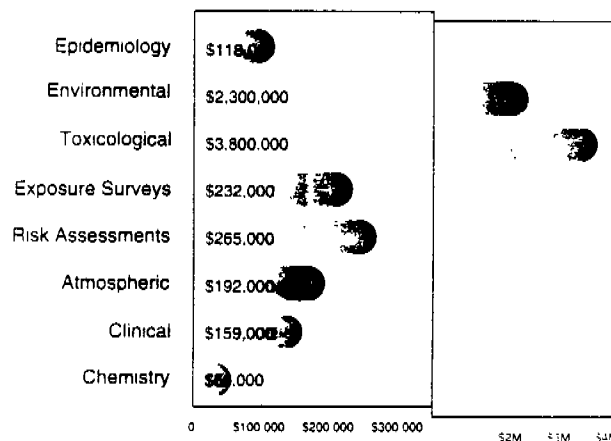


Staff Time Allocations



AMOUNT: Thirty-nine CHEMSTAR Panels and Councils sponsored some form of research. Thirty-one percent of staff time was spent managing research activities. **METHOD:** Groups authorized 180 research contracts, with a combined commitment of approximately \$17M. This year, \$7.5M of that commitment was spent. **FOCUS:** Toxicological research continued as the highest level activity, with environmental research increasing dramatically over the previous year from \$600,000 to over \$2M. Exposure surveys also increased significantly over the previous year.

CHEMSTAR Panels and Councils
Summary of Research Expenditures



CMA 030817

Education

Atmospheric Research Council
Modeling Workshop

Biocides Education Workshop for
Regulatory Personnel

Brominated Flame Retardants
Industry Panel Workshop
(Arlington, Virginia and Osaka,
Japan)

Chlorinated Pool Chemicals
Transportation Bulletin
Chlorinated Pool Chemicals Panel

Nomenclature for Diisocyanates
TDI, MDI and Derivatives" Guide
Diisocyanates Panel

Phosgene Pulmonary Exposure
Information
Phosgene Panel

"Integrating Process Safety and
Total Quality: A Matrix"
Total Quality Council

Petroleum Additives Laboratory
Compliance Training Workshop

Phenol Safety Handling Video

Phenol Information Exchange
Workshop

EPA Conference Presentation:
Polychlorinated Biphenyls Trends
Study

Vinyl Chloride Emergency Respons
Training Workshop

Communication

"Progress Summary Report"
Atmospheric Research Council

"The Inorganic Acid Mists Panel"
Membership Information

International Conference on
Crystalline Silica

Evaluation

"Carrier Assessment Council Guidance
Manual"
Carrier Assessment Council

"Product Stewardship Code
Assessment Protocol for Distributors"
Chemical Distributors Council

AMOUNT: Eighteen CHEMSTAR Panels and Councils sponsored workshops and symposia. Seven percent of staff time was spent managing this activity. **METHOD:** Groups educated member company personnel, government regulators, and the scientific and technical community about a variety of health, safety and environmental issues. **FOCUS:** Brochures, bulletins, manuals, workshops, and videos were planned and produced with the aim of promoting better understanding of issues important to member companies.

AMOUNT: Nineteen Panels and Councils produced communications materials. Five percent of staff time was spent managing this activity. **METHOD:** Groups developed and disseminated information to customers, regulators and the general public on a variety of topics significant to the industry. **FOCUS:** Press releases, white papers, scientific and technical journals and book chapters were prepared, all aimed at promoting better understanding of issues important to member companies. Groups hosted and participated in conferences of many different types.

AMOUNT: Eleven Panels and Councils produced evaluation-related materials. Fifteen percent of staff time was spent managing this activity. **METHOD:** Groups facilitated data collection by individual companies and non-proprietary information sharing on company practices. **FOCUS:** Protocols and surveys were developed that will aid companies and their customers in evaluating performance in safety and operations areas.

AMOUNT: Five Panels engaged in legal actions. Two percent of staff time was spent managing these activities. **FOCUS:** Litigation involvement ranged from status as principals in law suits to filing of amicus briefs in suits involving other principals.

AMOUNT: Thirty-eight Panels and Councils focus on international issues. Fourteen percent of CHEMSTAR managers' time was spent managing these issues. **METHOD:** Intra-industry activities range from simple information exchanges by Panels and Councils with foreign organizations having similar interests, to closely coordinated advocacy and research with these groups. In addition, several panels have evolved a multinational focus due to members that are non-U.S. companies. With foreign government and non-governmental organizations, Panels and Councils hold joint meetings; maintain correspondence; submit comments; cosponsor international workshops; and participate in voluntary testing agreements. **FOCUS:** The Table below highlights the types of international focuses of individual Panels and Councils.

CMA 030812

CHEMSTAR Focuses on International Activities

CHEMSTAR Groups

Councils

American Plastics
Atmospheric Research
Barrier Assessment
Chemical Distributors
Chlorine Chemistry
Total Quality

Panels

Acetone
Alkanolamines
Alkylphenols & Ethers
Bicides
Brominated Flame Retardants
Butadiene
Butylated Hydroxytoluene
Chlorinated Pool Chemicals
Chlorine Dioxide
Cobalt
Cresols
Crystalline Silica
Cumene
Diisocyanates
Ethylenebis(stearamide)
Ethylene Glycol
Ethylene Glycol Ethers
Ethylene Oxide
Fluorocarbons (sunset)
Hydrazine
Hydrogen Fluoride
Inorganic Acid Mists
Isopropanol
Ketones
Olefins
 α -Olefins
Oxetane
Oxo Process
Petroleum Additives
Phenol
Phosgene
Phthalate Esters
Polychlorinated Biphenyls
Propylene Oxide
Titanium Dioxide
Tris(chloroalkyl)phosphates
Water Additives

	Intl Members	Intl Advocacy Activities (except IARC)	Intl TUF Initiatives	IARC Classification	Harmonization of Standards/Regulations (except OECD)	Number of OECD Testing Programs	CEEC Sector Group Interaction	Coord. w/Other Intl Information Orgs (except CEEC)	Intl Workshops	Future Activity Level
American Plastics							X	X	X	I
Atmospheric Research			X		P		P	P	X	I
Barrier Assessment									X	
Chemical Distributors				X					X	R
Chlorine Chemistry	X	X	X	X	X	1	X	X	X	I
Total Quality		X		X				X	X	I
Acetone						P			X	R
Alkanolamines		X			P			X	X	I
Alkylphenols & Ethers	P		X	X	P			X	X	I
Bicides		X		X	X		X	X		I
Brominated Flame Retardants	X	X		X			X	P	X	R
Butadiene			X	X	P			X	X	I
Butylated Hydroxytoluene	X	X							X	R
Chlorinated Pool Chemicals	X								X	R
Chlorine Dioxide	X	X	X	X	X		X	X	X	I
Cobalt	X	X		X				X	X	R
Cresols	X									R
Crystalline Silica	X		X	X			X		X	I
Cumene						1			X	I
Diisocyanates		X	X	X		1	X	X	X	R
Ethylenebis(stearamide)				X		1			X	D
Ethylene Glycol							X			I
Ethylene Glycol Ethers		X		X	P	2	X	X	X	I
Ethylene Oxide	X	X	X	X	X		X	X	X	I
Fluorocarbons (sunset)	X		X	X	X			X	X	S
Hydrazine	X	X		X	X					D
Hydrogen Fluoride	X						X		X	I
Inorganic Acid Mists				X	X		X		X	R
Isopropanol		X		X		1	N	X	X	I
Ketones		X		X		3	X	X	X	I
Olefins		P		X	P	P	X	X	X	I
α -Olefins	X			X		5				I
Oxetane				X		1				D
Oxo Process	X	X		X		5	X	X	X	I
Petroleum Additives				X	X	1	X	X		I
Phenol		X							X	I
Phosgene	X	X	X	X	X		X	X	X	I
Phthalate Esters		X	X	X	P	1	X	X	X	I
Polychlorinated Biphenyls		X	X	X				X		I
Propylene Oxide				X						I
Titanium Dioxide	X	X		X	X		X	X	X	I
Tris(chloroalkyl)phosphates	X			X		1			X	I
Water Additives	X	X	X	X	X			X	X	I

X = Active D = Decrease I = Increase N = Not Active P = Perhaps in Future R = Remain the Same S = Sunset

CMA 030820

THE CHEMSTAR COUNCILS



ADVOCACY 22%
RESEARCH 28%
EDUCATION 5%
COMMUNICATION 45%

CHAIRMAN: Earnest W. Deavenport, Jr., Eastman Chemical Company. **CHARTERED:** 1991
TASK GROUPS: *Board Committees:* Executive, Finance and Membership. *Functional Committees:* Federal Government Relations, State Government Affairs, Advertising, Communications, Packaging, Durables, Product Benefits, Process Technology, Business Impact/Information Management and Plastics Mobilization; *Ad hoc Task Forces:* West Coast Team and Energy Recovery.

President & CEO: Red Cavaney. Other staff (60) provided through a cooperative arrangement with The Society of the Plastics Industry, Inc. **MISSION:** To ensure that plastics are the preferred materials by actively demonstrating they are the responsible choice in a more environmentally conscious world. **GREATEST ACCOMPLISHMENT:** Brought top executives of industry together to respond to public needs and values. **LATEST ACCOMPLISHMENT:** Developed a comprehensive strategy and reorganized structure to address issues relating to plastics and the environment. **MOST PRESSING ISSUE:** Developing programs and alliances to support this strategy and informing opinion leaders and the public of the progress the plastics industry continues to make. **DETAILS:** Page D-4.

EVALUATION 100%



CHAIRMAN: Steve Battilana, ICI Americas Inc. **CHARTERED:** 1991.
TASK GROUPS: Executive, Highway, Marine, and Rail. **COUNCIL MANAGER:** Clyde Greenert and Jonathon Busch. **MISSION:** To help interested CMA members meet the carrier safety provisions of the Responsible Care Distribution Code of Management Practices. **LATEST ACCOMPLISHMENT:** Initiated assessment protocol development for rail, barge, and container vessel modes. **MOST PRESSING ISSUE:** Completing all assessment protocol drafts. **DETAILS:** Page D-9.

Arch

RESEARCH 90%
EDUCATION 10%



CHAIRMAN: Ross Stevens, DuPont. **CHARTERED:** 1991. **TASK GROUP:** Science. **COUNCIL MANAGER:** Elizabeth Festa Watson. **MISSION:** To identify and help resolve scientific uncertainties regarding the potential effect of atmospheric emissions and volatile products by the chemical industry. **LATEST ACCOMPLISHMENT:** Became a major co-funder for a project to develop a chemical transport assessment model for the CMA members. **MOST PRESSING ISSUE:** Doubling efforts to develop a consensus report to characterize the indirect effects on global change of short-lived atmospheric emissions within the next two years. **DETAILS:** Page D-5.

EVALUATION 100%



CHAIRMAN: James Alampi, Van Waters & Rogers, Inc. **CHARTERED:** 1990. **TASK GROUP:** Responsible Care®. **COUNCIL MANAGER:** Langley Spurlock. **MISSION:** To address issues of concern to chemical distributors members of CMA. **GREATEST ACCOMPLISHMENT:** Developed the Responsible Care® Product Stewardship Code Assessment Protocol for Distributors. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUES:** Expanding use of Chemical Distributors Self-Assessment Protocol and new implementation aid for Product Stewardship Code. **DETAILS:** Page D-9.

Chemical Distributors



ADVOCACY 16%
RESEARCH 35%
EDUCATION 30%
EVALUATION 19%

CHAIRMAN: Leon Anziano, Olin Corporation. **CHARTERED:** 1992. **TASK GROUPS:** Operat-

ing, Science and Stewardship. **COUNCIL MANAGER:** Clyde Greenert. **MISSION:** To promote public understanding of chlorine and chlorine-related products. **GREATEST ACCOMPLISHMENT:** Prevented inappropriate legislative initiatives specific to chlorine chemistry at Federal and state levels. **LATEST ACCOMPLISHMENT:** Implemented a comprehensive science and outreach program on the EPA Dioxin Reassessment. **MOST PRESSING ISSUE:** To manage issues relating to health effect concerns about aspects of chlorine chemistry. **DETAILS:** Page D-9.

ADVOCACY 40%
EDUCATION 40%
COMMUNICATION 10%
EVALUATION 10%



CHAIRMAN: David Lindsay, Lyondell Petrochemical. **CHARTERED:** 1990

TASK GROUPS: Education, Executive

Committee, Governmental Affairs, Membership, Product Marketing. **COUNCIL MANAGER:** Langley Spurlock. **MISSION:** To address quality management issues for the chemical industry.

LATEST ACCOMPLISHMENT: Development of "Integrating Process Safety and Total Quality: A Matrix" which depicts in graphic form the connections between Responsible Care[®], several quality initiatives and OSHA regulations. **MOST PRESSING ISSUE:** Promoting a voluntary U.S. standards system and encouraging the use of total quality management methods to implement Responsible Care[®]. **DETAILS:** Page D-27

CHEMSTAR Councils FINANCIAL STATUS

For the Twelve Months Ended May 31, 1994

Councils	Balance June 1, 1993	Contribution Receipts	Interest & Misc. Revenue	Expenditures	Balance May 31, 1994
1 American Plastics	\$12,037,000	\$50,385,400	\$330,500	\$59,357,800	\$3,385,000
2 Atmospheric Research	100,200	261,900	7,200	265,900	103,400
3 Carrier Assessment	229,400	- 0 -	4,300	169,500	64,200
4 Chlorine Chemistry	(24,400)	3,615,000	15,400	3,426,000	180,000
5 Chemical Distributors	9,900	18,000	500	17,700	10,700
6 Total Quality	121,300	139,000	24,200	157,300	127,200
	<u>\$12,473,400</u>	<u>\$54,419,300</u>	<u>\$382,100</u>	<u>\$63,394,200</u>	<u>\$3,880,600</u>

Six CHEMSTAR Business Councils have been approved by CMA. All six Councils -- American Plastics, Atmospheric Research, Carrier Assessment, Chemical Distributors, Chlorine Chemistry and Total Quality -- have continued operations successfully. Several of these Councils have completed or made significant progress on major projects in the industry. Councils address data-gathering, research, program and advocacy activities in those designated business sectors or business function areas that are part of, or significant to, chemical manufacturing interests.

Fifty-four Panels are now officially approved by CMA. Three hundred and thirty-four companies and 39 associations participate on Panels. Among the company members, 112 were members of CMA and 30 are non-U.S. and non-Canadian. Participating companies and associations were represented on panels and task groups by over 1,000 persons with professional skills ranging from physical and biological sciences, through engineering and industrial hygiene to legal and business areas. Reasons for organizing range from a need to respond to pending or existing regulations to a proactive desire to promote safety, customer education, emergency response, and better product evaluations.

Panels and Councils work to increase government awareness of industry issues, as well as update industry management on progress



Claude Wolfe of Nalco Chemical briefed Biocides Panel member company management on an array of pesticide regulatory and legislative activities.

INDUSTRY

Lynn Goldman, Assistant Administrator for Prevention, Pesticides and Toxic Substances, met with the Biocides Panel to discuss streamlining the pesticides regulatory process.



REGULATORY



Representative Charles Stenholm briefed Biocides Panel members on Congressional activities

LEGISLATIVE

THE CHEMSTAR PANELS



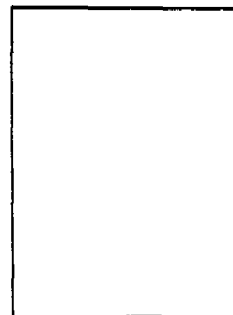
ADVOCACY 95%
RESEARCH 50%

CHAIRMAN: Roger Tankersley, Hoechst Celanese Corporation. **CHARTERED:** 1991 **TASK**

GROUP: Toxicology Research. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To address the regulatory concerns of manufacturers, processors, and users of acetone. **GREATEST ACCOMPLISHMENT:** Successfully advocated an OSHA PEL of 750 ppm. **LATEST ACCOMPLISHMENT:** Completed and submitted petitions to reclassify acetone as a volatile organic compound of negligible reactivity and to delist from SARA 313. **MOST PRESSING ISSUE:** To proceed with neurotoxicity testing program outlined in a recent consent order. **DETAILS:** Page D-2.

Alkylphenols and Ethoxylates

RESEARCH 65%
EDUCATION 35%



CHAIRMAN: Connie Carroll, Union Carbide Corporation. **CHARTERED:** 1987. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Fernando Leiva. **MISSION:** To determine the health and environmental effects of alkylphenols and ethoxylates in manufacture and use. **GREATEST ACCOMPLISHMENT:** Completed all testing required under TSCA Section 4 for nonylphenol. **LATEST ACCOMPLISHMENT:** Held a facilitated planning session in which communication and research needs were identified as further priorities. **MOST PRESSING ISSUE:** To initiate a risk assessment of alkylphenols and ethoxylates. **DETAILS:** Page D-2.

ADVOCACY 15%
RESEARCH 85%



CHAIRMAN: Ray Papciak, Texaco Chemical Company. **CHARTERED:** 1982. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Jonathon Busch. **MISSION:** To address toxicology and regulatory issues associated with alkanolamines. **GREATEST ACCOMPLISHMENT:** Completed voluntary research program relating to the dermal absorption and developmental toxicity of MEA and DEA. **LATEST ACCOMPLISHMENT:** Initiated a literature review covering the use, chemical and physical properties, toxicology and pharmacokinetics of alkanolamines. **MOST PRESSING ISSUE:** Advocating an increase in the Reportable Quantity for DEA with EPA. **DETAILS:** Page D-2.



ADVOCACY 100%

CHAIRMAN: Roy Roseberry, FMC Corporation. **CHARTERED:** 1991. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To address TSCA Section 4 testing issues for aryl phosphates. **LATEST ACCOMPLISHMENT:** Proposed a testing program which was accepted under EPA's "open season." **MOST PRESSING ISSUES:** To reach final agreement on TSCA testing program and begin testing. **DETAILS:** Page D-4.

Aryl Phosphates



ADVOCACY 50%
RESEARCH 30%
EDUCATION 15%
EVALUATION 5%

CHAIRMAN: Lori Lickly, The Dow Chemical Company.
CHARTERED: 1986. **TASK**

GROUPS: Antimicrobial Exposure Assessment, Arsenic Acid, Formaldehyde, Education, Executive, Legislative, Membership, Regulatory, Scientific. **PANEL MANAGER:** Has Shah. **MISSION:** To advocate industry positions on regulatory, legislative, and educational issues. **GREATEST ACCOMPLISHMENT:** Completed the Antimicrobial Exposure Assessment Study to support industry's advocacy and educational efforts. **LATEST ACCOMPLISHMENT:** Developed an educational program on biocides for regulatory personnel. **MOST PRESSING ISSUE:** To legislatively distinguish this class of pesticides from other pesticides and streamline the pesticide regulatory process for biocides. **DETAILS:** Page D-5.

Butadiene

ADVOCACY 10%
RESEARCH 89%
EDUCATION 1%



CHAIRMAN: Norman Morrow, Exxon Chemical Company. **CHARTERED:**

1984. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Elizabeth Moran. **MISSION:** To collect and evaluate information needed to assess safety, environmental and health issues. **GREATEST ACCOMPLISHMENT:** Butadiene was deleted from the California Proposition 65 high priority list after Panel comments on a proposal to review butadiene as a reproductive/developmental toxicant. **LATEST ACCOMPLISHMENT:** As a result of Panel comments on the risk assessment in the Motor Vehicle Related Air Toxics draft report, EPA presented a balanced review of the data in its final report and future regulation of motor vehicle emissions will be based on sound sciences. **MOST PRESSING ISSUE:** Assuring that the Panel's research results are included in EPA's revision of the Butadiene Risk Assessment. **DETAILS:** Page D-7.

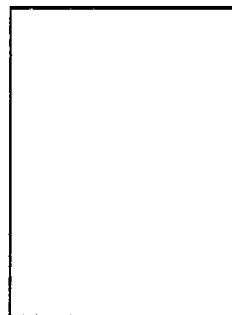
BHT

ADVOCACY 55%
RESEARCH 15%
EDUCATION 20%
COMMUNICATION 10%



CHAIRMAN: Marcia Hardy, Albemarle Corporation. **CHARTERED:** 1990. **TASK GROUPS:** Analytical Chemistry, Executive, Technical, Toxicology Research, Users Group. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To address the inclusion of BFR in proposed test rules, and to address publications addressing brominated flame retardants. **GREATEST ACCOMPLISHMENT:** Testing of eight BFRs to determine levels of polybrominated dibenzodioxins and furans under the TSCA Section 4 Analytical Test Rule. **LATEST ACCOMPLISHMENT:** Agreement by the EPA to enter negotiations on its proposed TSCA Section 4 test rule for health, environmental and chemical fate testing on five BFRs in response to the Panel's proposal. **MOST PRESSING ISSUES:** Continuing efforts to work with OECD and WHO to compile accurate information on BFRs, and to present information on current issues and activities at workshops and conferences. **DETAILS:** Page D-6.

ADVOCACY 85%
COMMUNICATION 15%



CHAIRMAN: Vacant. **CHARTERED:** 1977. **TASK GROUP:** None. **PANEL MANAGER:** Dee

Kuhn. **MISSION:** To conduct research and advocacy to support the use of BHT in food additive applications. **GREATEST ACCOMPLISHMENT:** Continued efforts to provide the FDA with updated information to aid in its evaluation of BHT. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** FDA response to the Panel's request for a regulation acknowledging the prior sanction status of BHT. **DETAILS:** Page D-8.

Butylated Hydroxytoluene



CHAIRMAN: John Stewart, Courtaulds Fibers, Inc. **CHARTERED:** 1991. **TASK GROUP:** TSCA Testing. **PANEL MANAGER:** Elizabeth Moran. **MISSION:** To interact with regulatory agencies on safety, health, and environmental issues. **GREATEST ACCOMPLISHMENT:** Completed a review of the literature on CS₂ effects that will form the basis of the Panel's advocacy activities. **LATEST ACCOMPLISHMENT:** Convinced EPA to issue a stay of the effectiveness of listing H₂S on SARA 313. **MOST PRESSING ISSUE:** Appropriate setting of the reference concentration for carbon disulfide. **DETAILS:** Page D-8.

ADVOCACY 20%
RESEARCH 70%
EDUCATION 10%



CHAIRMAN: Earl Smith, Vulcan Chemicals. **CHARTERED:** 1987. **TASK GROUPS:** Administration, Advocacy, Regulatory, Technical. **PANEL MANAGER:** Robert Romano. **MISSION:** To gather, review, generate and disseminate information on chlorine dioxide. **GREATEST ACCOMPLISHMENT:** Convinced EPA staff that chlorine dioxide, sodium chlorite and sodium chlorate are safe and effective chemicals that should be used in the strategy of treating water in the United States. **LATEST ACCOMPLISHMENT:** Completed all Phase I requirements for EPA's FIFRA Data Call-In and FIFRA Phase IV Reregistration. **MOST PRESSING ISSUES:** Negotiating with EPA on Disinfectants and Disinfection By-Products Proposed Rule and the Enhanced Surface Water Treatment Requirements Proposed Rule. **DETAILS:** Page D-10.

Chlorine Dioxide

ADVOCACY 60%
RESEARCH 10%
EDUCATION 30%



CHAIRMAN: Bruce Jacobsen, Olin Corporation. **CHARTERED:** 1989. **TASK GROUPS:** Transportation, Research, DCCA Dhydrate Reclassification. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To promote safety practices in the processing, packaging, warehousing, transportation and use of chlorinated pool chemicals. **GREATEST ACCOMPLISHMENT:** Developed bulletins on safe handling, storage and transportation of CPCs, and a video for emergency response personnel. **LATEST ACCOMPLISHMENT:** Submitted a research report on chloroform releases from swimming pools to the California Air Resources Board. **MOST PRESSING ISSUE:** Publication and distribution of "Guideline for Safe Transportation of Calcium Hypochlorite and Chlorinated Isocyanurate Pool Chemicals." **DETAILS:** Page D-9.

RESEARCH 100%



CHAIRMAN: James Bryant, Standard Chlorine Chemical Co., Inc. **CHARTERED:** 1974. **TASK GROUPS:** Toxicology Research, FIFRA Data Call-In, 1, 2, 4-Trichlorobenzene. **PANEL MANAGER:** Carol Stack. **MISSION:** To voluntary and mandated research on health and environmental effects. **LATEST ACCOMPLISHMENT:** Completion of an eight-year TSCA Section 4 testing program. **MOST PRESSING ISSUE:** Proposed testing of chlorobenzenes as Hazardous Air Pollutants. **DETAILS:** Page D-11.

Chlorobenzene



ADVOCACY 100%

CHAIRMAN: Ted Potter. The Shepherd Chemical Company.

CHARTERED: 1989. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To support advocacy for cobalt safety, health, and environmental issues. **GREATEST ACCOMPLISHMENT:** Successfully providing valuable information for use in the IARC review of cobalt and cobalt compounds by interacting with the Cobalt Development Institute. **LATEST ACCOMPLISHMENT:** Provided comments on the ATSDR's proposed research program under SARA Section 110 which led to the delisting of cobalt. **MOST PRESSING ISSUE:** Continued interaction with the ACGIH on the BEI and TLV for cobalt. **DETAILS:** Page D-11.

Crystalline Silica

ADVOCACY 60%
RESEARCH 10%
EDUCATION 20%
COMMUNICATION 10%



CHAIRMAN: Joseph Shapiro. Unimin Corporation. **CHARTERED:** 1989. **TASK GROUPS:** Administrative, Health Effects, Regulatory and Legal, Science and Technical Advisory. **PANEL MANAGER:** Elizabeth Festa Watson. **MISSION:** To address regulatory and research issues for crystalline silica, including the IARC classification of crystalline silica as a "probable carcinogen". **GREATEST ACCOMPLISHMENT:** Cosponsored a review of crystalline silica literature. **LATEST ACCOMPLISHMENT:** Cosponsored with Johns Hopkins University a major international conference on crystalline silica health effects. **MOST PRESSING ISSUE:** Addressing the focus on ambient levels of crystalline silica in the general environment at both the state and federal level. **DETAILS:** Page D-11.

Cresols

ADVOCACY 100%



CHAIRMAN: Kirby Boston. Merichem Company. **CHARTERED:** 1984. **TASK GROUP:** Advocacy. **PANEL MANAGER:** Barbara Francis. **MISSION:** To monitor cresols regulatory issues and interact with agencies, as appropriate. **GREATEST ACCOMPLISHMENT:** Completed TSCA Section 4 test rule. Reports were submitted and accepted by the agency. **MOST PRESSING ISSUE:** Working with the Carcinogen Risk Assessment Verification Endeavor Work Group to urge the re-review of the IRIS Database classification of the cresols isomers. **DETAILS:** Page D-11.

ADVOCACY 100%



CHAIRMAN: Kenneth Darmer. Shell Oil Company. **CHARTERED:** 1985. **TASK GROUPS:** Health Effects, Environmental Effects. **PANEL MANAGER:** Barbara Francis. **MISSION:** To collect information that will allow assessment of health and environmental effects arising from production, storage, use, and disposal of cumene. **GREATEST ACCOMPLISHMENT:** After reviewing the Panel's TSCA Section 4 data, and current hazard and exposure information, EPA concluded that the data support a low hazard concern for cumene and that it is of low risk to humans. **LATEST ACCOMPLISHMENT:** Submitted comments on proposed regulations under Section 112(g) of the Clean Air Act. **MOST PRESSING ISSUE:** To submit manuscripts for publication in peer reviewed journals. **DETAILS:** Page D-12.



ADVOCACY 90%
LITIGATION 10%

CHAIRMAN: Fred Marashi, Phillips Petroleum Company. **CHARTERED:** 1985. **TASK GROUP:**

Toxicology Research. **PANEL MANAGER:** Jonathon Busch. **MISSION:** To respond to the ITC "intent to designate" cyclohexane for TSCA Section 4 testing. **GREATEST ACCOMPLISHMENT:** Using scientific data, negotiated the elimination of two oncogenicity studies from the TSCA Section 4 consent order agreement, saving industry an estimated \$2 million. **LATEST ACCOMPLISHMENT:** Successful legal outcome in challenging the TSCA 4(a)(1)B policy. **MOST PRESSING ISSUE:** Completing TSCA consent agreement negotiations with EPA. **DETAILS:** Page D-13.

Diisocyanates

ADVOCACY 40%
RESEARCH 11%
EDUCATION 31%
LITIGATION 18%



CHAIRMAN: Patrick McNamara, ICI Polyurethanes. **CHARTERED:** 1988. **TASK GROUPS:** Isocyanates TSCA Testing, Maximum Achievable Control Technology, Toxicology Research, TSCA Nomenclature. **PANEL MANAGER:** Cecilia Spearling. **MISSION:** To develop and disseminate information on safe handling and impending regulations. **LATEST ACCOMPLISHMENT:** Oral argument of the judicial challenge to remove MDI from the high pollutant risk list of the Early Reduction Rule. **MOST PRESSING ISSUE:** Preparations for the RM-2 assessment of the isocyanates at EPA. **DETAILS:** Page D-14.

Dibenzofurans/

ADVOCACY 10%
RESEARCH 90%



CHAIRMAN: Robert Kaley, Monsanto Company. **CHARTERED:** 1984. **TASK GROUPS:** None. **PANEL MANAGER:** Elizabeth Festa Watson. **MISSION:** To respond to a TSCA Section 21 petition filed by the Environmental Defense Fund and the National Wild Life Federation with EPA. **LATEST ACCOMPLISHMENT:** Funded a preliminary assessment of the original data used to prepare a NIOSH epidemiology study on dioxin. **MOST PRESSING ISSUE:** To complete an independent reanalysis of the NIOSH epidemiology study data, a project being co-funded with the Chlorine Chemistry Council. **DETAILS:** Page D-13.



ADVOCACY 100%

CHAIRMAN: Broniek Drozdowicz, Air Products and Chemicals, Inc. **CHARTERED:** 1989. **TASK**

GROUP: Toxicology. **PANEL MANAGER:** Jonathon Busch. **MISSION:** To conduct research and regulatory advocacy for dinitrotoluenes. **GREATEST ACCOMPLISHMENT:** Completed a pharmacokinetics study under a voluntary research agreement with EPA and German regulatory agencies. **LATEST ACCOMPLISHMENT:** Submitted technical comments to ITC advocating that dermal absorption testing of 2, 4-DNT is unnecessary. **MOST PRESSING ISSUE:** To monitor ITC dermal absorption testing requirements. **DETAILS:** Page D-14.

Dinitrotoluenes



CHAIRMAN: Allan Kushins, Lonza, Inc. **CHARTERED:** 1992. **TASK GROUPS:** None.

PANEL MANAGER: Cecilia Spearing. **MISSION:** To complete a Screening Information Data Set (SIDS) dossier. **GREATEST ACCOMPLISHMENT:** Completion of SIDS dossier. **LATEST ACCOMPLISHMENT:** Working with EPA to ensure that all available data have been identified. **MOST PRESSING ISSUE:** Same. **DETAILS:** Page D-15.

Ethylene Glycol

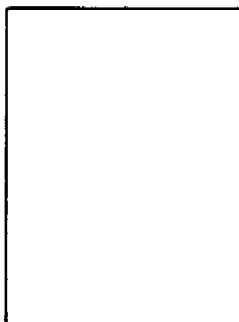
ADVOCACY 85%
RESEARCH 10%
COMMUNICATION 5%



CHAIRMAN: William Snellings, Union Carbide Corporation. **CHARTERED:** 1986. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To augment the database and address regulations affecting ethylene glycol. **GREATEST ACCOMPLISHMENT:** Advocated 5000 pound CERCLA RQ which EPA proposed in November 1993. **LATEST ACCOMPLISHMENT:** Initiated further research in determining mechanism of EG developmental toxicity. **MOST PRESSING ISSUE:** Responding to inclusion of EG on HAP TSCA Section 4 testing list. **DETAILS:** Page D-15.

Ethylene Dichloride

ADVOCACY 100%



CHAIRMAN: Vacant. **CHARTERED:** 1974. **TASK GROUP:** None. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To address safety and health issues arising from the production, distribution, and use of EDC. **LATEST ACCOMPLISHMENT:** Submitted comments on the draft ATSDR Toxicology Profile. **MOST PRESSING ISSUE:** Tracking regulatory issues affecting EDC. **DETAILS:** Page D-15.



ADVOCACY 40%
RESEARCH 40%
EDUCATION 10%
COMMUNICATION 10%

CHAIRMAN: Glenn Jones, Eastman Chemical Company. **CHARTERED:** 1980. **TASK**

GROUPS: Toxicology Research, Process Safety, Clean Air. **PANEL MANAGER:** Kathryn Rosica. **MISSION:** To develop a data base, provide information, and promote sound regulatory action. **GREATEST ACCOMPLISHMENT:** Successfully advocated industry positions to federal, state and international bodies for more than 12 years. **LATEST ACCOMPLISHMENT:** Took opportunity to present over \$1.8 million in Panel funded state-of-the-art research to an international audience of government regulators and researchers. **MOST PRESSING ISSUE:** Addressing regulators' confusion about individual members of the category causing regulations that do not appropriately differentiate individual glycol ethers within of the class. **DETAILS:** Page D-15.



ADVOCACY 20%
RESEARCH 75%
EDUCATION 5%

CHAIRMAN: Ron Van Mynen, Union Carbide Corporation. **CHARTERED:** 1982. **TASK GROUPS:** Toxicology Research, Safety, Environmental, Medical Epidemiology. **PANEL MAN-**

AGER: Robert Romano. **MISSION:** To address regulatory and scientific activities in an effort to help agencies make sound decisions on ethylene oxide. **GREATEST ACCOMPLISHMENT:** Established directly and indirectly a tremendous data base on ethylene oxide from toxicology, epidemiology, and industrial hygiene to engineering safety which allows for a more complete risk assessment on ethylene oxide. **LATEST ACCOMPLISHMENT:** Participated in an IARC review and evaluated a mutagenicity risk assessment on ethylene oxide. **MOST PRESSING ISSUES:** Working with EPA, academia and others on evaluating the carcinogenicity risk assessment on ethylene oxide and tracking the EO propagation study. **DETAILS:** Page D-16.

ADVOCACY 100%



CHAIRMAN: Donald Lamb, Miles Inc. **CHARTERED:** 1988. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:**

Kathleen Roberts. **MISSION:** To address TSCA Section 4 issues for HDI. **GREATEST ACCOMPLISHMENT:** Advocated that TSCA testing should be conducted via inhalation route, as it is the most relevant exposure possibility. **LATEST ACCOMPLISHMENT:** Responded to the inclusion of HDI on EPA's proposed Toxics Release Inventory expansion list. **MOST PRESSING ISSUE:** To proceed with the required TSCA Section 4 testing program when EPA issues the final rule. **DETAILS:** Page D-17.

Fluoroalkenes

RESEARCH 100%



CHAIRMAN: Sharron Laas, DuPont. **CHARTERED:** 1987. **TASK GROUPS:** Specific Chemical Producers, Specific Chemicals Toxicology. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To address TSCA Section 4 issues on fluoroalkenes. **GREATEST ACCOMPLISHMENT:** Completed requirements for TSCA Section 4 test rule in 1992. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** To respond to any issues regarding the results of the TSCA testing program. **DETAILS:** Page D-17.

ADVOCACY 75%
RESEARCH 25%



CHAIRMAN: Sherry Duff, Olin Corporation. **CHARTERED:** 1991. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To support hydrazine-related product stewardship activities. **GREATEST ACCOMPLISHMENT:** Continued efforts to provide the ACGIH with toxicity information to aid in its evaluation of the TLV for hydrazine. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** Monitoring regulatory response to outstanding comments and petitions. **DETAILS:** Page D-17.

Hydrazine



ADVOCACY 65%
RESEARCH 35%

CHAIRMAN: Mark Looney, Chemtech Products. **CHARTERED:** 1988. **TASK GROUPS:**

Advocacy/Communications, Management, Materials of Construction, Medical & Toxicology, Mutual Aid, Personal Protective Equipment, Storage Systems, Transportation. **PANEL MANAGER:** Fernando Leiva. **MISSION:** To share information on safety in manufacture, handling, and emergency response procedures. **GREATEST ACCOMPLISHMENT:** No additional industry restrictions by EPA after the Agency's Report to Congress. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** Monitoring the HAPs Rule. **DETAILS:** Page D-18.

Inorganic Acid Mists

ADVOCACY 70%
RESEARCH 30%



CHAIRMAN: James Hathaway, Rhone-Poulenc, Inc. **CHARTERED:** 1993. **TASK GROUPS:** Scientific Review, Exposure

Assessment, Epidemiology. **PANEL MANAGER:** Carol Stack. **MISSION:** To address IARC's classification of IAMs as carcinogenic to humans. **LATEST ACCOMPLISHMENTS:** Working with ESAA (European Sulfuric Acid Association) to complete a review of human health literature on inorganic acid mists, including sulfuric acid. Supporting development of methodology for sampling and analysis of airborne sulfuric acid mist without sulfate interferences. **MOST PRESSING ISSUE:** Same. **DETAILS:** Page D-18.

Hydroquinone

RESEARCH 60%
EDUCATION 20%
COMMUNICATION 20%



CHAIRMAN: David Lawrence, Eastman Chemical Company. **CHARTERED:** 1984. **TASK GROUP:** Toxicology Research. **PANEL MANAGER:** Jonathon Busch. **MISSION:** To respond to TSCA Section 4 test rule on hydroquinone. **GREATEST ACCOMPLISHMENT:** Completion of TSCA Section 4 testing program for hydroquinone. **LATEST ACCOMPLISHMENT:** Initiated a voluntary research program to further evaluate the health effects of hydroquinone. **MOST PRESSING ISSUES:** Publishing results of TSCA and voluntary research programs in scientific journals. **DETAILS:** Page D-17.

ADVOCACY 5%
RESEARCH 95%



CHAIRMAN: James Quance, Exxon Chemical Company. **CHARTERED:** 1987. **TASK**

GROUP: Toxicology Research. **PANEL MANAGER:** Cecilia Spearing. **MISSION:** To assess health risks arising from production, storage, and transportation. **GREATEST ACCOMPLISHMENT:** Completion of all testing requirements under the TSCA Section 4 Test Rule. **LATEST ACCOMPLISHMENT:** Submission of the final report of a mouse oncogenicity study. **MOST PRESSING ISSUES:** Completion of add-on studies, a risk assessment, and a SIDS dossier. **DETAILS:** Page D-19.

Isopropanol



ADVOCACY 1%
RESEARCH 7%
COMMUNICATION 5%
LITIGATION 21.5%

CHAIRMAN: James Quance, Exxon Chemical Company.
CHARTERED: 1980. **TASK**

GROUPS: Toxicology Research, Air Issues. **PANEL MANAGER:** Barbara Francis. **MISSION:** To address health, safety, and environmental issues related to the production and use of MEK, MIBK, MO, isophorone, and secondary butanol. **GREATEST ACCOMPLISHMENT:** Culminating a three year Panel effort, EPA increased the oral reference dose on the IRIS data base twelve fold from 0.05 mg/kg/day to 0.6 mg/kg/day. **LATEST ACCOMPLISHMENT:** Submitted comments on June 30, 1994 addressing EPA's proposed regulations under Section 112(g) of the Clean Air Act. **MOST PRESSING ISSUE:** To address the broad spectrum of Clean Air Act issues relating to ketones solvents. **DETAILS:** Page D-19.

Research Chemicals

ADVOCACY 65%
RESEARCH 15%
EVALUATION 20%



CHAIRMAN: Harris Lehrer, Spectrum Chemical Manufacturing Corporation.
CHARTERED: 1991. **TASK GROUPS:**

None. **PANEL MANAGER:** Fernando Leiva. **MISSION:** To address issues unique to the laboratory and research chemicals industry. **GREATEST ACCOMPLISHMENT:** Participated in ANSI labeling standards process to ensure that the needs of small packages were addressed. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUES:** Evaluating cost effective ways to help the laboratory and research chemicals industry meet Responsible Care goals. **DETAILS:** Page D-20.

Education

EDUCATION 100%



CHAIRMAN: Richard Demboski, Ashland Chemical, Inc. **CHARTERED:** 1993. **TASK GROUP:** Toxicology.

PANEL MANAGER: Marian Stanley. **MISSION:** To promote the principles and practices of Responsible Care with emphasis on Product Stewardship. **GREATEST ACCOMPLISHMENT:** Two videos on safety and handling have been completed and are in the approval process. **LATEST ACCOMPLISHMENT:** Completed layout of a brochure that will be published by the end of the year. **MOST PRESSING ISSUE:** Responding to the inclusion of maleic anhydride in the proposed HAP test rule. **DETAILS:** Page D-20.



ADVOCACY 85%
COMMUNICATION 5%
EVALUATION 5%
LITIGATION 5%

CHAIRMAN: Wayne Ellice, Crosfield Catalysts. **CHARTERED:** 1984. **TASK GROUP:**

MCPP. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To collect and evaluate information on safety, environmental and health issues for metal catalyst industrial processes. **GREATEST ACCOMPLISHMENT:** Joined several groups in litigation challenge to EPA's National Primary Drinking Water Regulation for nickel. As a result of litigation, EPA has agreed to take a voluntary remand of the standard. **LATEST ACCOMPLISHMENT:** Extensive work with the EPA to revise the Definition of Solid Waste under RCRA subtitle C. **MOST PRESSING ISSUES:** Closing discussions on litigation of National Primary Printing Water Regulation for nickel. **DETAILS:** Page D-20.

Metal Catalysts



ADVOCACY 10%
RESEARCH 90%

CHAIRMAN: David McAllister, Great Lakes Chemical Corporation. **CHARTERED:** 1990.

TASK GROUP: None. **PANEL MANAGER:** Kathryn Rosica. **MISSION:** To respond to an EPA Data-Call-In for methyl bromide. **LATEST ACCOMPLISHMENT:** Completed residue analyses on almost 80 different crop commodities. **MOST PRESSING ISSUES:** To fulfill pesticide chronic testing requirements for methyl bromide. **DETAILS:** Page D-21.

Olefins



ADVOCACY 40%
RESEARCH 45%
EDUCATION 5%
COMMUNICATION 10%

CHAIRMAN: Norman Morrow, Exxon Chemical Americas. **CHARTERED:** 1992. **TASK GROUPS:** IARC Issues.

Toxicology Research. **PANEL MANAGER:** Elizabeth Moran. **MISSION:** To conduct advocacy on environmental regulations for ethylene manufacturing facilities from an engineering view point. **LATEST ACCOMPLISHMENTS:** Obtained an exemption for ethylene manufacturing from the Hazardous Organic NESHAP under the Clean Air Act. Because of a successful research and advocacy program on ethylene and propylene, neither was designated a carcinogen by IARC. **MOST PRESSING ISSUE:** Merging Olefins and Butadiene Panels to form a new Olefins Panel to cover advocacy and research needs for all chemicals resulting from ethylene manufacturing. **DETAILS:** Page D-21.

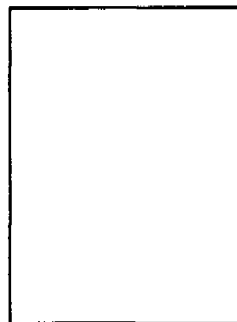
Nitrosamines

ADVOCACY 100%



CHAIRMAN: Charles Green, Witco Corporation. **CHARTERED:** 1990. **TASK GROUPS:** Risk Assessment, Analytical Assessment, Formulation. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To address regulatory issues impacting nitrosamines. **GREATEST ACCOMPLISHMENT:** Completed a chapter on N-nitrosamines in "Patty's Industrial Hygiene and Toxicology" in 1993. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** EPA Risk Management review of nitrosamines. **DETAILS:** Page D-21.

RESEARCH 100%

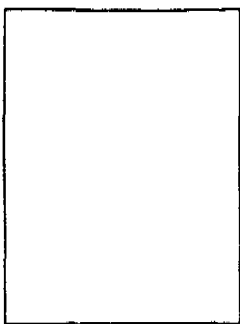


CHAIRMAN: Vacant. **CHARTERED:** 1991. **TASK GROUP:** Toxicology Research. **PANEL**

MANAGER: Cecilia Spearing. **MISSION:** To compile information and complete SIDS dossiers for several alpha-olefins. **GREATEST ACCOMPLISHMENT:** Developed SIDS dossiers for 1-hexene, 1-octene, 1-decene, 1-dodecene, and 1-tetradecene. **LATEST ACCOMPLISHMENT:** Framed testing recommendations to fill data gaps for the series. **MOST PRESSING ISSUE:** To participate in a SIDS Assessment Review of several alpha-olefins. **DETAILS:** Page D-22.

α-Olefins

Chemicals



ADVOCACY 40%
RESEARCH 60%

CHAIRMAN: Jay Clay, Akzo Chemicals, Inc. **CHARTERED:** 1984. **TASK GROUPS:** None.

PANEL MANAGER: Fernando Leiva. **MISSION:** To respond to a proposed TSCA Section 4 Test Rule for oleylamine. **LATEST ACCOMPLISHMENT:** Participating in OECD Existing Chemicals Voluntary Testing Program for oleylamine. **MOST PRESSING ISSUE:** Completing a toxicokinetics research project in late 1994. **DETAILS:** Page D-22.

Oxo Process

ADVOCACY 50%
RESEARCH 23%
COMMUNICATION 3%
LITIGATION 26.5%



CHAIRMAN: Roderick Gerwe, Eastman Chemical Company. **CHARTERED:** 1990. **TASK GROUPS:** 2-Ethylhexanol, 2-Ethylhexanoic Acid, Butyraldehyde, Butanol/Isobutanol; Butyl Acetate, Air Issues, Ethyl Acetate, Toxicology Research. **PANEL MANAGER:** Barbara Francis. **MISSION:** To address issues on a broad range of chemicals that are starting materials, intermediates, or end products of the same industrial process. **GREATEST ACCOMPLISHMENT:** Negotiated with EPA to reduce testing requirements of several panel chemicals in the neurotoxicity multi-substance test rule program. **LATEST ACCOMPLISHMENT:** Formed, along with Ketones Panel, a task group to address Clean Air Act issues that impact solvent end-users. **MOST PRESSING ISSUES:** To develop a long-range strategic plan to address a wide spectrum of issues affecting oxo process chemicals. **DETAILS:** Page D-23.

Petroleum Additives

ADVOCACY 9%
RESEARCH 12%
EDUCATION 50%
EVALUATION 78%
COMMUNICATION 50%



CHAIRMAN: John Sanders, Oronite-Chevron Chemical Company. **CHARTERED:** 1990. **TASK GROUPS:** Fuels Detergent Performance, Health, Environmental and Regulatory, Product Approval Protocol. **PANEL MANAGER:**

Carol Stack. **MISSION:** To pursue research and advocacy issues for additives used to enhance the performance of automotive and industrial petroleum fuels or lubricants. **GREATEST ACCOMPLISHMENT:** Developed and operated the CMA Product Approval Code of Practice for engine oil testing. **LATEST ACCOMPLISHMENT:** Conducting an aquatic toxicity research program on 19 classes of lubricant additives; participating in OECD HPV Existing Chemicals Voluntary Testing Program. **MOST PRESSING ISSUES:** Responding to the proposed Clean Air Act Section 211(1) rulemaking on a performance-based self-certification system for fuel detergents; responding to Section 211 (b) fuels/fuel additives registration requirements. **DETAILS:** Page D-24.



ADVOCACY 10% RESEARCH 12% EDUCATION 50% EVALUATION 78% COMMUNICATION 50%

COCHAIRMAN: Edward Fraini, Dow Chemical USA; Jim Santory, Aristech Chemical. **CHARTERED:** 1988. **TASK GROUPS:** Toxicology Research, Video. **PANEL MANAGERS:** Kathryn Rosica, Jonathon Busch. **MISSION:** To address safety, regulatory, toxicology, and environmental issues concerning phenol. **GREATEST ACCOMPLISHMENT:** Completed a training program, including workbooks and instructional videos to encourage safe handling. **LATEST ACCOMPLISHMENT:** Advocated a cost-effective, tiered testing proposal as an alternative to the costly and extensive testing program proposed by EPA. **MOST PRESSING ISSUE:** To successfully negotiate a sound, scientific testing program for phenol with EPA. **DETAILS:** Page D-25.

Phenol



ADVOCACY 30%
RESEARCH 60%
EDUCATION 10%

CHAIRMAN: W. E. Irby, Miles, Inc. **CHARTERED:** 1972. **TASK GROUPS:** Engineering, Safety,

& Environmental, Regulatory, Safe Practices & Guidelines; Medical & Toxicology. **PANEL MANAGER:** Robert Romano. **MISSION:** To improve industry's ability to safely manufacture, handle, and use phosgene. **GREATEST ACCOMPLISHMENT:** The sharing of information on phosgene manufacturing for the betterment of the entire industry. **MOST PRESSING ISSUE:** To further evaluate how to formalize and publish safety practices and guidelines for the industry. **DETAILS:** Page D-26.

Chlorinated Biphenyls

ADVOCACY 90%
RESEARCH 10%



CHAIRMAN: Gary Mappes, Monsanto Company. **CHARTERED:** 1981. **TASK GROUPS:** None. **PANEL MANAGER:**

Elizabeth Festa Watson. **MISSION:** To respond to implementation of TSCA Section 6 regulations for PCBs. **GREATEST ACCOMPLISHMENT:** Formation of the PCB consensus group where industry and environmental groups worked together to resolve PCB issues. **LATEST ACCOMPLISHMENT:** Worked with PCB Industry Coalition to conduct strategic planning and supported preparation and presentation of a co-funded study of declining trends of PCBs in the environment. **MOST PRESSING ISSUES:** To implement the strategic plan and to encourage publication of a proposed rulemaking for remaining PCB disposal by EPA. **DETAILS:** Page D-27.

Phthalate Ester

ADVOCACY 50%
RESEARCH 40%
COMMUNICATION 10%



CHAIRMAN: John Bankston, Aristech Chemical Corporation. **CHARTERED:** 1973. **TASK GROUPS:** Toxicology Research, Environmental Research, Food and Drug Applications, Phthalic Anhydride, California Issues, FDA Toxicology Research. **PANEL MANAGER:** Marian Stanley. **MISSION:** To address environmental issues and to respond to TSCA Section 4 test rules. **GREATEST ACCOMPLISHMENT:** Successful negotiation and completion of the environmental testing consent order. **LATEST ACCOMPLISHMENT:** Development of a sediment toxicity testing protocol with EPA. **MOST PRESSING ISSUES:** Responding to the inclusion of phthalic anhydride and dibutyl phthalate in the proposed HAP test rule. **DETAILS:** Page D-26.



ADVOCACY 100%

CHAIRMAN: William Hayes, The Dow Chemical Company. **CHARTERED:** 1993. **TASK**

GROUP: Toxicology Research. **PANEL MANAGER:** Kathryn Rosica. **MISSION:** To develop a research program and work with government organizations on propylene glycol ethers. **LATEST ACCOMPLISHMENT:** Established a working relationship with Interagency Testing Committee and Consumer Product Safety Commission to clarify information interests for propylene glycol ethers. **MOST PRESSING ISSUE:** To initiate a voluntary research program on propylene glycol ethers. **DETAILS:** Page D-27.

Propylene Glycol Ethers

ADVOCACY 100%



CHAIRMAN: Bernard Silverstein.
ARCO Chemical Company.

CHARTERED: 1993. **TASK**

GROUPS: Emergency Response, Marine Transportation.
PANEL MANAGER: Dee Kuhn. **MISSION:** To improve emergency response, handling and transportation of propylene oxide. **GREATEST ACCOMPLISHMENT:** Sponsored an observer to IARC work group meetings where the classification of propylene oxide was under review. **LATEST ACCOMPLISHMENT:** Addressing safety and handling procedures related to marine transportation and assessing U.S. emergency response capabilities. **MOST PRESSING ISSUES:** Monitoring safety and handling issues and addressing the development of an emergency response network for propylene oxide. **DETAILS:** Page D-28.

Sodium Bromide

ADVOCACY 100%



CHAIRMAN: Louise Wen, Ethyl Corporation. **CHARTERED:** 1990. **TASK**

GROUPS: None. **PANEL MANAGER:**

Jonathon Busch. **MISSION:** To address health, environmental, and regulatory issues on sodium bromide. **GREATEST ACCOMPLISHMENT:** Completed a voluntary aquatic study to evaluate the relative toxicities of bromine chloride and chlorine on freshwater and saltwater species. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** Monitoring research on sodium bromide conducted outside of CMA. **DETAILS:** Page D-28.

Rubber Additives

ADVOCACY 80%
RESEARCH 20%



CHAIRMAN: Michael Smith, The Goodyear Tire & Rubber Company.

CHARTERED: 1979. **TASK GROUPS:**

Toxicology Research, MBT. **PANEL MANAGER:** Dee Kuhn. **MISSION:** To support research to expand the rubber additives safety and health issues data base. **GREATEST ACCOMPLISHMENT:** Collected information on approximately 65 rubber additive chemicals, and sponsored more than \$800,000 in research. **LATEST ACCOMPLISHMENT:** Submission of exposure and use information to EPA on the Risk Management review of MBT. **MOST PRESSING ISSUE:** EPA review of 2-MBT. **DETAILS:** Page D-28.



ADVOCACY 10%
RESEARCH 90%

CHAIRMAN: Georjean Adams, Minnesota Mining and Manufacturing Company. **CHAR-**

TERED: 1987. **TASK GROUPS:** Scientific Issues, Membership, Regulatory Issues. **PANEL MANAGER:** Marian Stanley. **MISSION:** To address EPA concerns about new and existing specialty acrylates and methacrylates. **GREATEST ACCOMPLISHMENT:** Completed Phase I of a research program. **LATEST ACCOMPLISHMENT:** Commented on EPA's proposed generic significant New Use Rule for acrylates as a class. **MOST PRESSING ISSUE:** Working with EPA to remove restrictions on the development and marketing of new products. **DETAILS:** Page D-29.

Specialty Acrylates/Methacrylates



ADVOCACY 100%

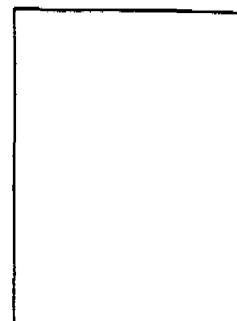
CHAIRMAN: Edward Miller, Eastman Chemical Company.

CHARTERED: 1990. **TASK**

GROUPS: None. **PANEL MANAGER:** Elizabeth Moran. **MISSION:** To address health and environmental issues on terephthalic acid and dimethyl terephthalate. **GREATEST ACCOMPLISHMENT:** Based on Panel comments, EPA delisted terephthalic acid from the EPCRA 313 List. **LATEST ACCOMPLISHMENT:** Convinced EPA to delete dimethyl terephthalate from the ITC list, until the OECD SIDS evaluation is completed. **MOST PRESSING ISSUES:** Inclusion of terephthalic acid in the reproductive and developmental effects endpoint test rule. **DETAILS:** Page D-29.

2,4-Toluenediamines

ADVOCACY 100%



CHAIRMAN: Vacant. **CHARTERED:** 1991.

TASK GROUP: Toxicology Research.

PANEL MANAGER: Cecilia Spearing.

MISSION: To address an EPA proposed rule requiring multi-substance testing for developmental and reproductive toxicity. **GREATEST ACCOMPLISHMENT:** Developed comments and participated in an EPA public meeting for the proposed endpoint rule under TSCA Section 4 for 2,4-toluenediamine. **LATEST ACCOMPLISHMENT:** Same. **MOST PRESSING ISSUE:** Issuance of the final TSCA Section 4 test rule. **DETAILS:** Page D-30.

Titanium Dioxide

ADVOCACY 50%
RESEARCH 50%



CHAIRMAN: Terry Casey, Kronos, Inc.-Rheox, Inc. **CHARTERED:** 1977.

TASK GROUP: $TiCl_4$ Modeling. **PANEL**

MANAGER: Jonathon Busch. **MISSION:** To address toxicology and occupational issues associated with titanium dioxide and titanium tetrachloride. **GREATEST ACCOMPLISHMENT:** Developed a new air dispersion model which predicts downwind dispersion and concentrations of $TiCl_4$. **LATEST ACCOMPLISHMENT:** Sponsored voluntary research to evaluate potential pulmonary effects of TiO_2 . **MOST PRESSING ISSUE:** Continuing discussions with NIOSH on the unwarranted classification of TiO_2 as a potential carcinogen. **DETAILS:** Page D-29.



RESEARCH 100%

CHAIRMAN: William Gentile, Akzo Nobel. **CHARTERED:**

1992. **TASK GROUP:** Toxicol-

ogy Research. **PANEL MANAGER:** Cecilia Spearing. **MISSION:** To collect, generate and evaluate information required to complete a SIDS dossier for tris(chloroisopropyl)-phosphate (TCIP). **GREATEST ACCOMPLISHMENT:** Developed a Screening Information Data Set dossier on TCIP. **LATEST ACCOMPLISHMENT:** Presented the SIDS dossier to EPA and proposed further evaluation of additional endpoints. **MOST PRESSING ISSUE:** To initiate a one-generation reproductive screening test program to complete SIDS data gaps. **DETAILS:** Page D-30.

Tris(chloroisopropyl)phosphate



ADVOCACY 90% RESEARCH 5% COMMUNICATION 5%

COCHAIRMAN: Vergel Perry and Jonathon Ramlow, The Dow Chemical Company. **CHARTERED:** 1971. **TASK GROUPS:** Health Committee and Transportation Committee. **PANEL MANAGER:** Has Shah. **MISSION:** To assess health and safety data on vinyl chloride, conduct research, establish and maintain a mutual aid network to respond to vinyl chloride incidents, and support regulatory advocacy and pursue product stewardship activities. **GREATEST ACCOMPLISHMENT:** Formation of the Vinyl Chloride Mutual Aid Network. **LATEST ACCOMPLISHMENT:** Developed Vinyl Chloride Safety Awareness Training Program. **MOST PRESSING ISSUES:** Ensuring that EPA's risk assessment of vinyl chloride is based on appropriate scientific data. **DETAILS:** Page D-31.

Vinyl Chloride

ADVOCACY 100%



CHAIRMAN: James Barter, PPG Industries, Inc. **CHARTERED:** 1974. **TASK GROUPS:** None. **PANEL MANAGER:** Kathleen Roberts. **MISSION:** To sponsor research on the potential toxicologic effects and pharmacokinetics of VDC. **GREATEST ACCOMPLISHMENT:** Completed toxicology research program. **LATEST ACCOMPLISHMENT:** Tracked the California Air Resources Board Compound Review of VDC. **MOST PRESSING ISSUE:** Responding to potential regulations affecting VDC. **DETAILS:** Page D-32.

Water Additives

ADVOCACY 25%
RESEARCH 70%
EDUCATION 5%



CHAIRMAN: Randy Deskin, American Cyanamid Company. **CHARTERED:** 1985. **TASK GROUP:** Specific Chemicals. **PANEL MANAGER:** Robert Romano. **MISSION:** To address regulations and gather, review, generate and disseminate information on direct and indirect potable water additives. **GREATEST ACCOMPLISHMENT:** Achieved National Sanitation Foundation acceptance of water additives certification packages for several chemicals. **LATEST ACCOMPLISHMENT:** Worked with NSF to allow the certification process on three chemistries to be smooth, cost/effective and quick. **MOST PRESSING ISSUES:** Assuring that the NSF certification process is running smoothly and cost/effectively and that all company member products are NSF certified as soon as possible. **DETAILS:** Page D-32.

CHEMSTAR Panels Financial Status

June 1, 1993 through May 31, 1994

CHEMSTAR PANELS		Balance June 1, 1993	Contribution Receipts	Investment Revenue	Balance Expenditures	May 31, 1994
1	Acetone	\$11,900	\$649,500	\$6,000	\$268,700	\$398,700
2	Alkanolamines	340,500	57,400	8,900	115,900	290,900
3	Alkylphenols and Ethoxylates	56,700	589,300	4,000	369,300	280,700
4	Arsenic	100	0	0	100	0
5	Aryl Phosphates	38,000	15,000	300	49,000	4,300
6	Benzene	800	0	0	900	0
7	Biocides	921,900	1,027,900	24,900	992,200	982,500
8	Brominated Flame Retardants	8,100	127,500	400	92,400	43,600
9	Butadiene	1,316,400	1,169,500	36,900	1,084,500	1,438,300
10	Butylated Hydroxytoluene	7,300	14,800	0	18,100	4,000
11	Carbon Disulfide	95,600	270,200	3,900	223,000	146,700
12	Chlorinated Pool Chemicals	76,400	0	1,700	28,600	49,500
13	Chlorine Dioxide	30,600	413,200	1,200	161,700	283,300
14	Chlorobenzenes	200	486,400	4,500	482,100	9,000
15	Cobalt	14,300	1,000	200	14,800	700
16	Cresols	32,500	34,000	900	49,100	18,300
17	Crystalline Silica	36,000	162,900	400	203,000	-3,700
18	Cumene	15,400	48,300	1,400	15,400	49,700
19	Cyclohexane	7,300	120,000	400	115,600	12,100
20	Dibenzofurans/Dibenzodioxins	18,200	20,000	500	35,300	3,400
21	Diisocyanates	115,900	324,700	2,200	350,100	92,700
22	Dinitrobenzenes	111,900	0	2,800	27,700	87,000
23	Ethylene Dichloride	-900	1,800	0	900	0
24	Ethylene Glycol	37,600	250,800	3,000	144,700	146,700
25	Ethylene Glycol Ethers	29,700	621,800	2,400	631,500	22,400
26	Ethylene Oxide	336,900	129,200	8,200	456,300	18,000
27	Ethylenebis (stearamide)	-1,300	2,100	0	500	300
28	Fluoroalkenes	114,500	0	3,200	8,400	109,300
29	Fluorocarbons	161,100	0	4,500	18,500	147,100
30	Hexamethylene Diisocyanate	11,600	0	200	13,400	-1,600
31	Hydrazine	96,700	0	1,800	65,500	33,000
32	Hydrogen Fluoride	50,700	201,500	1,800	146,800	107,200
33	Hydroquinone/Quinone	4,100	7,500	0	8,800	2,800
34	Inorganic Acid Mists	0	90,000	1,000	59,300	31,700
35	Isopropanol	959,300	225,900	0,200	707,600	497,800
36	Ketones	166,700	215,800	6,000	224,500	164,000
37	Laboratory Research Chemicals	2,300	21,000	200	15,000	8,500
38	Maleic Anhydride	0	100,000	1,100	34,100	67,000
39	Metal Catalysts	21,400	96,000	900	88,900	29,400
40	Methyl Bromide	429,100	2,623,400	15,500	2,695,700	372,300
41	Methylenedianiline	5,100	0	100	1,000	4,200
42	Nitrosamines	6,500	29,400	100	36,000	0
43	Olefins	114,300	714,700	10,400	543,100	296,300
44	Alpha Olefins	-6,300	191,300	2,500	154,400	33,100
45	Oleylamine	-600	12,200	100	8,500	3,200
46	Oxo Process	389,400	2,004,400	20,000	669,300	1,744,500
47	Petroleum Additives	275,900	1,794,600	17,800	1,383,600	704,700
48	Phenol	292,000	159,700	8,000	180,400	279,300
49	Phosgene	22,300	60,000	300	76,500	6,100
50	Phthalate Esters	922,100	218,800	23,000	363,800	800,100
51	Polychlorinated Biphenyls	53,200	60,000	800	111,300	2,700
52	Propylene Glycol Ethers	0	60,000	300	55,200	5,100
53	Propylene Oxide	26,000	36,000	500	35,300	27,200
54	Rubber Additives	26,100	0	400	24,000	2,500
55	Sodium Bromide	2,700	0	0	1,700	1,000
56	Specialty Acrylates/Methacrylates	1,048,900	21,700	27,700	239,600	858,700
57	Terephthalates	6,800	0	200	2,200	4,800
58	Titanium Dioxide	169,500	32,800	4,000	193,000	13,300
59	Toluenediamines	3,300	0	100	2,100	1,300
60	Tris(chloroalkyl)phosphates	-5,200	27,000	0	21,900	-100
61	Vinyl Chloride	69,800	97,400	1,900	70,100	99,000
62	Vinylidene Chloride	1,400	0	0	700	700
63	Water Additives	105,200	0	2,000	122,600	-15,400
64		<u>\$9,203,900</u>	<u>\$15,638,400</u>	<u>\$291,700</u>	<u>\$14,314,100</u>	<u>\$10,819,900</u>

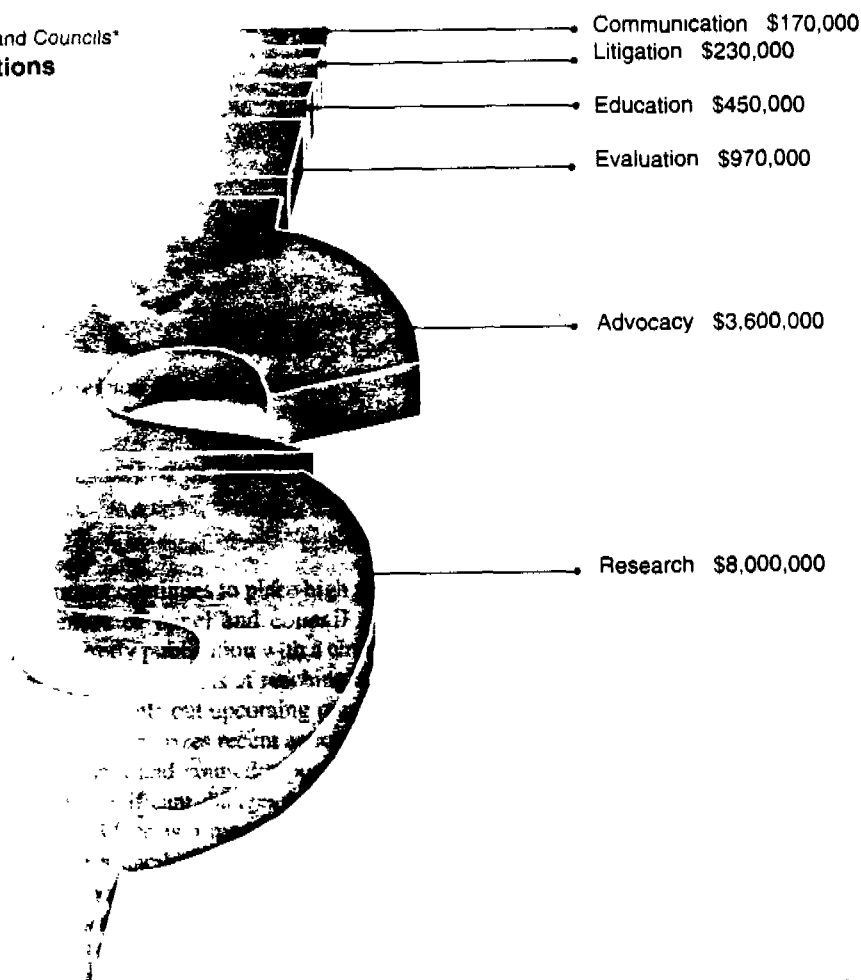
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Each panel is required to maintain a **CASH DEPOSIT ACCOUNT** which recognizes that CMA signs all contracts on behalf of the panels, and assumes the financial liability for meeting their contractual commitments. The balance permits timely honoring of financial commitments. The combined compensating balance for all CHEMSTAR Panels at the beginning of Fiscal Year '93-94 was about \$9 million. On this date, CMA had financial liabilities totaling about \$7.5 million under 180 executed contracts on behalf of the various panels.

INTEREST on the unexpended cash balances provides supplemental revenue for each CHEMSTAR Panel. This year, panels earned a combined total of approximately \$300,000 in interest income.

EXPENDITURES of CHEMSTAR Panels are based on budgets approved by each group. In Fiscal Year '93-94, panels spent a collective total of \$10.8 million for research, consultants, legal counsel and panel management.

CHEMSTAR Panels and Councils*
Financial Allocations



*American Plastics Council excluded.

CHEMSTAR Policy Committee



Chairman Darryl Fry
Cytec Industries Inc.



Vice Chairman
Larry Rankin



Staff Executive Langley A. Spurlock, Ph.D., CAE
Vice President, CHEMSTAR, CMA



Gary C. Herrman
Vice President, Treasurer,
CMA



David F. Zoll
Vice President, General
Counsel, CMA

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 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.

This year, as in previous years, a broad array of CMA services were employed to ensure that panels and councils received adequate support for their operations.

Leadership Training

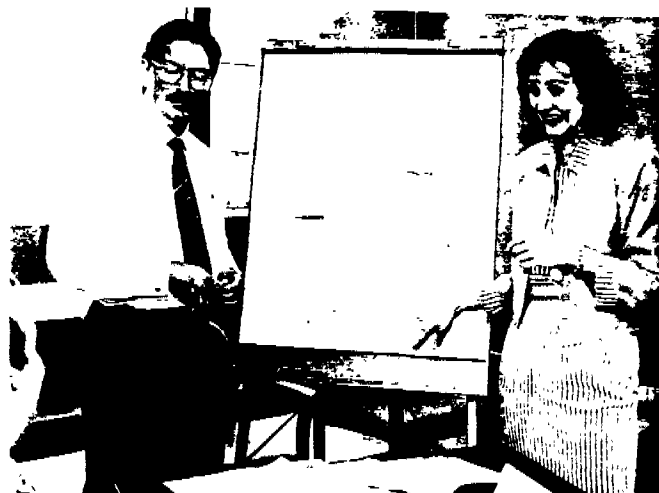
The annual CHEMSTAR Leadership Session was held in May, and attended by ten panel and council leaders. The Sessions are designed to assist chairmen in resolving the dilemmas of leading diverse and changing organizations. Sessions are invitational, one-day workshops primarily held for new panel, council and task group chairmen. Participation by experienced chairmen also is welcome and sought. At this year's Session, experts from two CMA member companies provided advice on persuasive leadership through well-designed planning, and peers shared experiences in dealing with related problems. Because participant ratings were very high, another similar Session is planned for late 1994.



Leadership Session Breakout Group

Communications

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



Leadership Session Facilitators: David Lindsay of Lyondell Petrochemical Co. and Susan Adzick of Occidental Chemical Corp.

panels and councils are summarized. This year, the Petroleum Additives, Biocides and Olefins Panels were featured.

The CHEMSTAR Alerts, published as needed, are the Department'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. This year, Alerts requested action from companies on the CAA Section (b) Testing Consortium for Atypical Fuels/Fuel Additives, and on the TSCA Inventory corrections for TDI, MDI and substances derived from these diisocyanates.



Leadership Session Q&A

DEPARTMENT MANAGING STAFF

Vice President

Langley A. Spurlock, Ph.D., CAE

Dr. Spurlock completed his twelfth year as Director of CHEMSTAR in June. He began his thirteenth year at CMA as Vice President of the CHEMSTAR Department. He is responsible for oversight of all CHEMSTAR panels and councils. He also manages the Total Quality Council.

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

Directors

Clyde H. Greenert, BS, Ch.E.

Mr. Greenert came to CMA from Union Carbide Corporation in 1992 as a loaned industry executive for Responsible Care® activities. In 1993, he joined the CHEMSTAR Department as a Director. He manages the Chlorine Chemistry and the Carrier Assessment Councils. During the upcoming fiscal year, Mr. Greenert will manage the Chlorine Chemistry Council exclusively.

At Union Carbide, Mr. Greenert was Director of Public Issues and Contributions. He worked closely with CMA to develop Responsible Care®, and participated in the Board Public Perception Committee activities. Also, he worked with the CMA and Society of the Plastics Industry team which developed the American Plastics Council. He brings 31 years of business and public af-

fairs experience at Union Carbide to CHEMSTAR. Mr. Greenert earned his BS degree in chemical engineering at the University of Arkansas and is a graduate of the Public Affairs Institute of the Public Affairs Council.

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

Dr. Moran joined CMA and CHEMSTAR in 1981. She continued this year as manager of the Butadiene, Carbon Disulfide, Olefins, and Terephthalates Panels.

Dr. Moran is a biochemist and Board Certified Toxicologist. She is currently on the finance committee of the American College of Toxicology. 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.

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

Dr. Shah joined CMA and CHEMSTAR in 1979. He is responsible for the management of the Biocides 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. Earlier, he was a Visiting Fellow Scientist at the National Institute for Environmental Health Sciences. Dr. Shah received a Ph.D. in Pharmacology and Toxicology from the University of Rhode Island.

Carol R. Stack, Ph.D.

Dr. Stack joined CMA and CHEMSTAR in 1980. She is currently responsible for management of the Chlorobenzenes, Inorganic Acid Mists, and Petroleum Additives Panels.

Before joining CMA, Dr. Stack was employed in the Toxicology and Biomedical Sciences Department at Equitable Environmen-

tal 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

Jonathon Busch, MBA

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

Before coming to 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. He received his MBA in Finance from George Mason University and his BS in Biology from Virginia Polytechnic Institute and State University.

Barbara Francis, MBA

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

Before coming to CMA, Ms. Francis was with Interspan Inc., a management consulting firm specializing in employee involvement and productivity improvement programs. Previously, she held the position of product planner for Hoechst Celanese, Inc. where she was responsible for customer service, production and transport of amines. She also served as a translator for the U.S. Air Force in Europe. She received an MBA from Virginia Polytechnic Institute and State University and a BS in Biology and Chemistry from Bishop's University in Quebec, Canada.

Robert R. Romano, Ph.D.

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

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

Kathryn A. Rosica, B.S.

Ms. Rosica joined CMA and CHEMSTAR in 1986. In 1988 she was promoted to Associate Director in CMA's Health and Safety Division. In 1990, she became Division Director and served as Staff Executive to the Health and Safety Committee. Ms. Rosica rejoined CHEMSTAR in 1992. She is responsible for the management of the Ethylene Glycol Ethers, Methyl Bromide, Phenol and Propylene Glycol Ethers Panels.

Before coming to CMA, Ms. Rosica was a toxicologist for NUS, Inc., in Boston, MA. She received a B.S. in Toxicology from Northeastern University.

Elizabeth Festa Watson, B.A.

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

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

Senior Panel Managers

Kathleen Roberts, B.S.

Ms. Roberts joined CMA and CHEMSTAR in 1991. She is responsible for the management of the Acetone, Aryl Phosphates, Chlorinated Pool Chemicals, Ethylene Dichloride, Ethylene Glycol, Fluoroalkenes, Hexamethylene Diisocyanate, and Vinylidene Chloride Panels. In addition, she is the Administrator for the Hydrogen Fluoride Industry Practices Institute, a subsidiary of the Chemical Manufacturers Association, which develops and pub-

lishes recommended practices for the HF industry in transportation, storage, materials of construction, personal protective equipment, and other areas of concern.

Before coming to CMA, Ms. Roberts was Product Manager with Jellinek, Schwartz, Connolly & Freshman, an environmental consulting firm. In the firm's Pesticide Reregistration Division, she managed several pesticide testing programs required under FIFRA. Previously, she was a laboratory technician for Hazleton Laboratories America, conducting genetic and inhalation toxicology studies. Ms. Roberts received a B.S. degree in Biology from the University of North Carolina at Chapel Hill.

Cecilia W. Spearing, M.S.

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

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

Marian K. Stanley, MBA

Ms. Stanley joined CMA and CHEMSTAR 1990. She is responsible for the management of the Phthalate Esters, Specialty Acrylates/Methacrylates and Maleic Anhydride Panels.

Before coming to CMA, Ms. Stanley was with E.R. Squibb and Sons for 12 years, holding a variety of technical and managerial positions. Her last position was as Technical Project Manager for Squibb@Mark, a Division of E.R. Squibb and Sons. Previously, she was employed as both a development and analytical chemist at Union Carbide Corporation. Ms. Stanley received a MBA in Pharmaceutical/Chemical Studies from Fairleigh Dickinson University, and a B.S. in Chemistry from Pratt Institute.

Panel Managers

T. Dee Kuhn, M.S.

Ms. Kuhn joined CMA and the CHEMSTAR Division in 1991. She is responsible for the management of the Brominated Flame Retardants, Butylated Hydroxytoluene, Hydrazine, Cobalt, Metal Catalysts Producers, Nitrosamines, Propylene Oxide, and the Rubber Additives Panels.

Before coming to CMA, Ms. Kuhn was a Quality Assurance Supervisor with Hazleton Laboratories. Ms. Kuhn received a M.S. in Biology with a specialization in Environmental Science and Policy from George Mason University, and a B.S. in Biology from Vanderbilt University.

Fernando S. Laiva, M.A.

Mr. Laiva joined CMA and CHEMSTAR in May 1992. He is responsible for the Hydrogen Fluoride, Oleylamine and the Alkylphenol and Ethoxylates Panels. He also manages the Science and Technology Advisory Group of the Crystalline Silica Panel.

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

Senior Administrative Assistants

Devonne Bilal

Ms. Bilal joined CMA and CHEMSTAR in 1980. She became Senior Administrative Assistant in 1993. Ms. Bilal is responsible for administrative oversight and training of the support staff. She also coordinates production of Department publications such as the CHEMSTAR News and the CHEMSTAR Annual Report.

Before coming to CMA, Ms. Bilal was a Personnel Clerk at the Department of State, Bureau of Consular Affairs, responsible for the Passport Services function. Earlier, she taught English, history and mathematics at Muhammad University. Ms. Bilal is studying Business Management at Strayer College.

Patricia A. Messenger

Ms. Messenger joined CMA and CHEMSTAR in 1982. She became Senior Administrative Assistant, Business Councils in 1993. She is responsible for administrative oversight of all Business Councils managed within the Division, as well as direct administrative support and task group management for the Total Quality and Chemical Distributors Councils.

Before coming to CMA Ms. Messenger was administrative assistant at Clas Riggs Owens & Ramos and technical services representative at the Burroughs Corporation. Earlier she instructed the mentally and physically challenged in Summit County, OH. She also received an elementary grades teaching certificate from the Catholic Diocese of Cleveland. Ms. Messenger studied Biology at the University of Akron.

Legal Counsel

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

Counsel

Robert D. Ondocsin, J.D.

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

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

Staff



From left front: Elizabeth J. Moran, Has C. Shah, Langley A. Spurlock, Carol R. Stack, Clyde H. Greenert. *From left back:* Devonne Bilal, Barbara O. Francis, Trish A. Messenger, Cecilia W. Spearing, Robert R. Romano, Marian K. Stanley, Jonathon T. Busch, Kathryn A. Rosica, Elizabeth F. Watson, Kathleen M. Roberts, Fernando S. Leiva.

CM^A

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MANAGEMENT ASSOCIATES
A COMMITMENT TO EXCELLENCE

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