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ENGINEERING AND RESEARCH SUBCOMMITTEE

MANUFACTURING AND SUPPLY SUBCOMMITTEE

CONTROL OF CARCINOGENS IN THE WORKPLACE
(Task Force Report)

MAY 27, 1980

Purpose

The purpose of this paper is to report on Task Force accomplishments, to propose a policy and supporting strategies for eliminating (or controlling) substances which the government may determine to be carcinogenic (so called Category I) or suspect (so called Category II), and to propose a program to substitute non-carcinogenic materials in anticipation of such government regulations.

Task Force Charter

- The Task Force was chartered by E&R and M&S Subcommittees (Meeting of 10/24/79) for coordinating plans and efforts to:
  - Identify substances in use (OSHA Categories I and II).
  - Determine quantities used (for materials regulated by Michigan Department of Natural Resources).
  - Collect relevant data.
  - Develop a policy and action plan for eliminating potential carcinogens where possible.
  - Organize to identify substances systematically.
  - Set targets for elimination of as many Category I substances as possible.
  - Take aggressive steps to find substitutes for as many Category I substances as possible in anticipation of government regulations.

Task Force Accomplishments

- Prepared a list of substances to be addressed and prepared assessments and regulatory updates of the three top priority substances (asbestos, certain chromium containing materials, benzene).
- Identified materials/parts containing the three top priority substances.
- Identified the Engineering Materials Approved Source List and the Non-Production Materials Approved Source List as the Official Company documents to indicate the toxicological assessment of all production and non-production materials for procurement purposes.

Policy and Strategy Proposals

- Drafted a Company policy to eliminate the use of Category I substances in anticipation of government regulations consistent with the development of suitable substitutes.

- Developed strategies for elimination/accommodation of Category I and II production and nonproduction substances to support the policy.

Program to Find Suitable Substitute Materials

- Proposed a program to develop substitute materials through the Advanced Engineering Budget process managed by E&RS Technical Planning.

- Materials Substitution projects will be formally proposed for inclusion in the 1981 Budget.

Conclusions and Recommendations

- Identify Ford usage of each Category I and II substance.

- Develop appropriate strategies for all remaining Category I and II substances as prioritized by the Task Force.

- Implement policy and strategies in anticipation of government regulations for Category I and II substances consistent with development of substitutions.

Engineering Staff
Manufacturing Staff
March 13, 1980

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ATTACHMENT I

Inter Office

Personnel and
Organization Staff

November 7, 1977

Memo to: Division Industrial Relations Managers
Division Safety Engineers
Plant Physicians

Subject: OSHA Proposed Model Standards for Regulating Potential Occupational Carcinogens

OSHA has recently issued proposed rulemaking by which potentially carcinogenic substances in the workplace can be fitted into one of four categories. Such rulemaking would allow OSHA to rapidly regulate potentially carcinogenic materials with little or no rebuttal allowed from outside the Federal arena.

Category I Toxic Substances would result in the immediate issuance of an emergency temporary standard, followed by rapid "boiler-plate" rulemaking that would, in essence, either ban or set the lowest feasible exposure level for any substance that OSHA might see fit to put into this category.

Category I classification would go to toxic substances (a) defined as potential occupational carcinogens in (1) humans, or (2) two-mammalian test species, or (3) a single mammalian test species where results have been replicated in the same species, or (4) a single mammalian species if results are supported by short-term tests, or (b) in instances where the Secretary of Labor finds that other evidence would classify the material accordingly.

Category II Toxic Substances would address potential carcinogens, scientific data for which would be somewhat more speculative than in Category I. Rulemaking would not involve an emergency temporary standard, but a permanent standard would be rapidly issued which would address the maximum allowable exposure level in the workplace, ceiling limits, medical examinations of employes, hygiene activities, posting of workplace and worker training regarding potential cancer hazard, etc.

Category II materials would be so qualified where data were "suggestive" of carcinogenicity in test animals and humans, or unreplicated tests indicate potential occupational carcinogen in a single mammalian test species.

Category III Toxic Substances as defined by OSHA would be any toxic substance not classified as Category I or Category II. Such substances would be referred over to the Environmental Protection Agency, Food and Drug Administration, National Institute of Occupational Safety and Health, and Consumer Product Safety Commission, asking if they would like to reconsider such classification to a Category I or II.

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Category IV Toxic Substances represents foreign toxic substances that the Department of Labor determines are not found in any American workplace.

From their list of 21,729 different chemicals, the National Institute for Occupational Safety and Health has listed approximately 2,000 chemicals which could fall into Category I or Category II classifications. An initial review of materials used within the Company that could fall into these two categories is attached.

Written comments on the proposed rules are solicited by OSHA and must be postmarked no later than December 8, 1977. A public hearing is scheduled for March 14, 1978. Requests to testify at the hearing are to be postmarked no later than January 9, 1978.

MVMA has a task force, chaired by Dr. L. M. Roslinski, Company Industrial Toxicologist, to address this issue and develop a position paper for possible submission or presentation at the hearing. If any of you would like to comment regarding the proposal, please contact Dr. Roslinski.

Paul E. Toth

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LMR/kb

Attachment

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SUMMARY OF FEDERAL ACTIVITIES RELATED TO CARCINOGENS AND REGULATIONS

Interagency Regulatory Liaison Group (IRLG)

The IRLG is comprised of representatives from OSHA, EPA, CPSC, FDA and DOA. The intent of the IRLG is to coordinate efforts related to the regulation of chemicals in a variety of places in the environment. A subgroup of the IRLG recently (7/6/79) published a "Scientific Bases for Identification of Potential Carcinogens and Estimation of Risk." Comments are due no later than September 30, 1979. This publication or a very similar document will probably serve as the rationale for future regulations of carcinogens. It is anticipated that OSHA will finalize their carcinogen policy shortly after comments have been received on the IRLG paper. Ford is preparing to submit comments through MVMA.

While the IRLG has no regulatory powers per se, its membership is composed of regulators, and it can be anticipated that future regulations will track closely with IRLG position.

Specific Regulatory Agencies

Environmental Protection Agency (EPA) -- EPA is currently working on a generic standard on airborne carcinogens that would be directed at control of airborne carcinogens at their source, rather than at the material itself. Although at this time no draft document has been released by EPA, one is anticipated this month. Evidently, the draft will include criteria categorizing chemicals similar to OSHA categories. More room for interpretation and risk evaluation for setting priorities is expected as part of any rulemaking. As part of the Toxic Substances Control Act, EPA published proposed standards for chronic health effects testing and for good laboratory practices on May 9, 1979. Comments have been submitted via SSECO.

Consumer Product Safety Commission (CPSC) -- On June 13, 1978, the CPSC published a draft carcinogen policy similar to that of OSHA's. Shortly thereafter, CPSC withdrew their proposal and little has been heard from them since. It is anticipated that any future regulations of policy will track closely with those of OSHA and/or EPA.

Food and Drug Administration (FDA) -- Being concerned primarily with the safety of food and food additives and ethical as well as over-the-counter drugs, FDA is of minor concern to Ford operations at this time. Cancer policy within FDA has been dictated primarily by the "Delaney Clause" which simply stated says that no food additive that causes cancer will be allowed to be used in food for human consumption.

Department of Agriculture (DOA) -- DOA has not taken an official position on any generic cancer standard as of this date, although it does participate in the IRLG.

Department of Labor, Occupational Safety and Health Administration (DOL, OSHA) -- A draft carcinogen policy was proposed by OSHA in 1977. Early indications this year had been that OSHA would not finalize any policy until the comments on the IRLG "Scientific Bases" had been evaluated. Unconfirmed reports, however, from Washington indicate that OSHA may issue a final policy this month, prior to the deadline for comments to the IRLG.

Research Agencies Within the Government

National Cancer Institute, Bioassay Programs -- A number of potential environmental carcinogens are tested, almost always in rodents, for potential carcinogenicity. This program has been criticized for its slowness in developing data and/or some errors by some of the contractors.

National Toxicology Program -- Established by HEW to strengthen the testing of chemicals of public health concern. As part of this program, an attempt is being made to make research, especially federally funded research, more responsive to regulatory questions than it has been in the past. Having a budget of approximately $41,000,000, NTP's charge is evidently to coordinate overall research and to publish an annual list of known animal carcinogens, number of people exposed to them, standards that apply, and the efficacy of those standards in protecting health.

National Center for Toxicological Research (NCTR) -- The NCTR, stationed in Arkansas, is conducting fairly basic research currently aimed at the potential of predicting pre-cancer changes, as well as examining the "threshold" concept of carcinogens.

Congressional activity continues the debate over the risks associated with saccharin and the study by the National Academy of Sciences into those risks. Additionally, a bill asking the National Academy of Sciences to conduct a study on the state of the art of carcinogen testing has been introduced into the House of Representatives.

CATEGORY I AND CATEGORY II MATERIALS PROBABLY ENCOUNTERED IN FORD MOTOR COMPANY

Asbestos -	Insulation, filler in finished plastics, mastics, gaskets, clutch plates, brakes. Contaminants in talc (glass spraying as separating agent).
Chromium Oxide -	Plating operations, refractory bricks, corrosion inhibitors, pigments, welding operations (fume), paint sanding and spraying, power house boiler scaler.
Benzo(a)pyrene -	Combustion of carbon containing materials, roofing operations, coal tar bricks, coke oven emissions.
1-Naphthylamine -	Potential antioxidant in rubber, paint, plastics and petroleum, coke oven emissions.
2-Naphthylamine -	As above.
**Polyethylene -	Multipurpose polymer (PP&V Division).
Chromium -	Plating, pigments, stainless steel welding (see chromium oxide), glass makers.
Cadmium -	Pigments, metal coatings, silver solder, welding, glass makers, paint spraying.
Cadmium Oxide -	As above.
*Cobalt -	Paints, alloys, plating, glass making, high speed steel, ink making.
Lead Chromate -	Pigment and coatings, welding, paint spray and sanding.
Ethylene Chloropolymer -	Multipurpose polymer (PP&V Division).
*Maleic Anhydride -	Paint (PP&V Division).
*Mercury -	Scientific instruments, perhaps fungicide use, in paints, laboratories, instrument repair.
*Methyl Methacrylate -	Paint (PP&V Division).
*Naphthalene -	Roofing operations, coke oven operations.
Nickel Carbonyl -	Potential by-product of nickel plating where nickel reduction is done, foundry operations.
**Nylon -	Widespread polymer.
**Polyurethane -	Seat and body building, bumpers (Utica Trim Plant), fenders (Milan Plant).
Silver -	Mainly in alloys - electrical components, glass makers.
Benzo(a)anthracene -	Combustion of carbon containing materials, sawing coal tar bricks. (See Benzo(a)pyrene.)

* Category II.
** Solid state carcinogen - not expected in final standard.

*Ethylene Glycol -	Hydraulic fluids, antifreeze, solvents, ink and paint makers.
Lead Naphthenate -	Lubricants, greases, paints.
Nickel Chloride -	Plating operations.
[a] Petroleum -	All over.
*Phenol -	Paint resin coating systems, binders, foundry operations, photographic material workers, grounds maintenance as pesticide.
*2,4, Dichlorophenol -	Anti-fouling, preservative (especially wood), as contaminant.
Chloroform -	Primarily scientific laboratories.
2 Benzothiazolthiol -	Pesticide, preservative.
*Boric Acid -	Laboratories, medical.
Hydrazine -	Water treatment, boiler/steam systems, flux.
Zinc Dibutyl Dithio Carbamate -	Pesticide.
*Magnetite -	Ore/metals processing, iron welding, steel manufacturing.
Beryllium -	Grinding finished metals; welding rods, die casting.
Coal Tar -	Coal/coke/carbon combustion, roofing materials (see Benzo (a)pyrene).
**Polydimethyl Siloxane -	Adhesives, sealers.
Gasoline Engine Exhaust "Tar"[a] -	Internal combustion operation tests (See Benzo(a) pyrene).
Tris -	N/A.
Nitrosamines -	Cutting fluids, food products.
[a] Dyes -	Pigments (PP&V Division).
Propylene Oxide -	
[a] Petroleum Asphalt -	Sealers, roofing, etc. (See Benzo(a)pyrene).

* Category II.
** Solid state carcinogens - not anticipated in final standard.
a Probably too nebulous to regulate as listed.

OSHA Category I Carcinogens

Substance	Current Exposure Limit	Use or Source Within Ford Motor Company	Status
Asbestos	2 fibers/cc	Insulation, filler in finished plastics, mastics, gaskets, clutch plates, brakes. Contaminants in talc (glass spraying as separating agent).	- Anticipate lowering of standard to 1 or 0.5 fibers/cc in 1980.
Benzene	10 ppm	Fuels, coke-oven by-products.	- Standard to lower exposure limits to 1 ppm to be addressed by Supreme Court first half 1980.
Benzo(a) anthracene	0.2 mg/m3	Coke-oven emissions, combustion of carbon-containing materials, sawing coal-tar bricks.	- See "General Carcinogen Policy" (GCP) below.
Benzo(a)pyrene	0.2 mg/m3	Combustion of carbon-containing materials, roofing operations, coal-tar bricks, coke-oven emissions.	- See GCP
2-Benzothiazol-thiol	NE*	Pesticide, preservative	- See GCP
Beryllium	2 µg/m3	Grinding finished metals, welding rods, die casting.	- See GCP
Cadmium	0.1 mg/m3	Pigments, metal coatings, silver solder, welding, glass makers, paint spraying.	- See GCP
Cadmium Oxide	0.1 mg/m3 (as Cadmium)	As above	- See GCP
Chloroform	240 mg/m3	Primarily scientific laboratories.	- See GCP
Chromium	0.1 mg/m3	Plating, pigments, stainless-steel welding (see Chromium Oxide), glass makers.	- Rules proposed to be proposed in 1975. No proposal to date. See GCP
Chromium Oxide	0.5 mg/m3 (as Chromium)	Plating operations, refractory bricks, corrosion inhibitors, pigments, welding operations (fume), paint sanding and spraying, power-house boiler scaler.	- ibid
Coal Tar	0.2 mg/m3	Coal/coke/carbon combustion.	- No change in standard anticipated but may be lowered to "lowest feasible limit" under GCP.

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	Substance	Current Exposure Limit	Use or Source Within Ford Motor Company	Status
	Ethylene Chloropolymer	NE*	Multipurpose polymer (PP&V Division)	- See GCP
	Hydrazine	1.3 mg/m3	Water treatment, boiler/steam systems, flux.	- See GCP
3	Lead Chromate	See Chromium	Pigment and coatings, welding, paint spray and sanding.	- See Chromium
	Lead Naphthenate	NE*	Lubricants, greases, paints	- See GCP
2	1-Naphthylamine	No exposure	Potential antioxidant in rubber, paint, plastics and petroleum, coke-oven emissions.	- Current standard calls for no employe exposure via closed-system usage.
1	2-Naphthylamine	No exposure	As above	- ibid
1	Nickel Carbonyl	7 µg/m3	Potential by-product of nickel plating where nickel reduction is done, foundry operations.	- See GCP
	Nitrosamines	NE*	Cutting fluids, food products, certain automotive products.	- See GCP
4	Trichloroethylene	100 ppm	Degreasing	- See GCP

General Carcinogen Policy (GCP) Status

Final policy anticipated from OSHA before end of January 1980. Document is expected to justify "lowest feasible control limits" or banning where applicable. Specific regulations of specific "Category I" carcinogens are not expected to be addressed in this document. OSHA, Office of Standards, to issue proposed rules.

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* NE = None established

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