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(C) If the hazardous chemical is a mixture which has not been tested as a whole:

(1) The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise 1% or greater of the composition, except that chemicals identified as carcinogens under paragraph (d)(4) of this section shall be listed if the concentrations are 0.1% or greater; and,

(2) The chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture;

(ii) Physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point);

(iii) The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity;

(iv) The health hazards of the hazardous chemical, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the chemical;

(v) The primary route(s) of entry;

(vi) The OSHA permissible exposure limit, ACGIH Threshold Limit Value, and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the material safety data sheet, where available;

(vii) Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions), or by OSHA;

(viii) Any generally applicable precautions for safe handling and use which are known to the chemical manufacturer, importer or employer preparing the material safety data sheet, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks;

(ix) Any generally applicable control measures which are known to the chemical manufacturer, importer or employer preparing the material safety data sheet, such as appropriate engineering controls, work practices, or personal protective equipment;

(x) Emergency and first aid procedures;

(xi) The date of preparation of the material safety data sheet or the last change to it; and,

(xii) The name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party preparing or distributing the material safety data sheet, who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

(3) If no relevant information is found for any given category on the material safety data sheet, the chemical manufacturer, importer or employer preparing the material safety data sheet shall mark it to indicate that no applicable information was found.

(4) Where complex mixtures have similar hazards and contents (i.e. the chemical ingredients are essentially the same, but the specific composition varies from mixture to mixture), the chemical manufacturer, importer or employer may prepare one material safety data sheet to apply to all of these similar mixtures.

(5) The chemical manufacturer, importer or employer preparing the material safety data sheet shall ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If the chemical manufacturer, importer or employer becomes newly aware of any significant information regarding the hazards of a chemical, or ways to protect against the hazards, this new information shall be added to the material safety data sheet within three months. If the chemical is not currently being produced or imported the chemical manufacturer or importer shall add the information to the material safety data sheet before the chemical is introduced into the workplace again.

(6) Chemical manufacturers or importers shall ensure that distributors and manufacturing purchasers of hazardous chemicals are provided an appropriate material safety data sheet with their initial shipment, and with the first shipment after a material safety data sheet is updated. The chemical manufacturer or importer shall either provide material safety data sheets with the shipped containers or send them to the manufacturing purchaser prior to or at the time of the shipment. If the material safety data sheet is not provided with the shipment, the manufacturing purchaser shall obtain one from the chemical manufacturer, importer, or distributor as soon as possible.

(7) Distributors shall ensure that material safety data sheets, and updated information, are provided to other distributors and manufacturing purchasers of hazardous chemicals.

(8) The employer shall maintain copies of the required material safety data sheets for each hazardous chemical in the workplace, and shall ensure that they are readily accessible during each work shift to employees when they are in their work area (s).

(9) Material safety data sheets may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be

more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, the employer shall ensure that in all cases the required information is provided for each hazardous chemical, and is readily accessible during each work shift to employees when they are in in their work area(s).

(10) Material safety data sheets shall also be made readily available, upon request, to designated representatives and to the Assistant Secretary, in accordance with the requirements of 29 CFR 1910.20 (e). The Director shall also be given access to material safety data sheets in the same manner.

(h) Employee information and training. Employers shall provide employees with information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new hazard is introduced into their work area.

(1) Information. Employees shall be informed of:

(i) The requirements of this section;

(ii) Any operations in their work area where hazardous chemicals are present; and,

(iii) The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.

(2) Training. Employee training shall include at least:

(i) Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);

(ii) The physical and health hazards of the chemicals in the work area;

(iii) The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and,

(iv) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

(i) Trade secrets. (1) The chemical manufacturer, importer or employer may withhold the specific chemical identity, including the chemical name and other specific identification of a hazardous chemical, from the material safety data sheet, provided that:

(i) The claim that the information withheld is a trade secret can be supported;

(ii) Information contained in the material safety data sheet concerning the properties and effects of the hazardous chemical is disclosed;

(iii) The material safety data sheet indicates that the specific chemical identity is being withheld as a trade secret; and,

(iv) The specific chemical identity is made available to health professionals, in accordance with the applicable provisions of this paragraph.

(2) Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a hazardous chemical is necessary for emergency or first-aid treatment, the chemical manufacturer, importer, or employer shall immediately disclose the specific chemical identity of a trade secret chemical to that treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The chemical manufacturer, importer, or employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (i)(3) and (4) of this section, as soon as circumstances permit.

(3) In non-emergency situations, a chemical manufacturer, importer, or employer shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under

paragraph (i)(1) of this section, to a health professional (i.e. physician, industrial hygienist, toxicologist, or epidemiologist) providing medical or other occupational health services to exposed employee(s) if:

(i) The request is in writing;

(ii) The request describes with reasonable detail one or more of the following occcupational health needs for the information:

(A) To assess the hazards of the chemicals to which employees will be exposed;

(B) To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;

(C) To conduct pre-assignment or periodic medical surveillance of exposed employees;

(D) To provide medical treatment to exposed employees;

(E) To select or assess appropriate personal protective equipment for exposed employees;

(F) To design or assess engineering controls or other protective measures for exposed employees; and,

(G) To conduct studies to determine the health effects of exposure.

(iii) The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information would not

enable the health professional to provide the occupational health services described in paragraph (ii) of this section:

(A) The properties and effects of the chemical;

(B) Measures for controlling workers' exposure to the chemical;

(C) Methods of monitoring and analyzing worker exposure to the chemical; and,

(D) Methods of diagnosing and treating harmful exposures to the chemical;

(iv) The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and,

(v) The health professional, and the employer or contractor of the health professional's services (i.e., downstream employer, labor organization, or individual employer), agree in a written confidentiality agreement that the health professional will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (i)(6) of this section, except as authorized by the terms of the agreement or by the chemical manufacturer, importer, or employer.

(4) The confidentiality agreement authorized by paragraph (i)(3)(iv) of this section:

(i) May restrict the use of the information to the health purposes indicated in the written statement of need;

(ii) May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,

(iii) May not include requirements for the posting of a penalty bond.

(5) Nothing in this standard is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.

(6) If the health professional receiving the trade secret information decides that there is a need to disclose it to OSHA, the chemical manufacturer, importer, or employer who provided the information shall be informed by the health professional prior to, or at the same time as, such disclosure.

(7) If the chemical manufacturer, importer, or employer denies a written request for disclosure of a specific chemical identity, the denial must:

(i) Be provided to the health professional within thirty days of the request;

(ii) Be in writing;

(iii) Include evidence to support the claim that the specific chemical identity is a trade secret;

(iv) State the specific reasons why the request is being denied; and,

(v) Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.

(8) The health professional whose request for information is denied under paragraph (i)(3) of this section may refer the request and the written denial of the request to OSHA for consideration.

(9) When a health professional refers the denial to OSHA under paragraph (i)(8) of this section, OSHA shall consider the evidence to determine if:

(i) The chemical manufacturer, importer, or employer has supported the claim that the specific chemical identity is a trade secret;

(ii) The health professional has supported the claim that there is a medical or occupational health need for the information; and,

(iii) The health professional has demonstrated adequate means to protect the confidentiality.

(10) (i) If OSHA determines that the specific chemical identity requested under paragraph (i)(3) of this section is

not a bona fide trade secret, or that it is a trade secret but the requesting health professional has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means to protect the confidentiality of the information, the chemical manufacturer, importer, or employer will be subject to citation by OSHA.

(ii) If a chemical manufacturer, importer, or employer demonstrates to OSHA that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical identity, the Assistant Secretary may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health services are provided without an undue risk of harm to the chemical manufacturer, importer, or employer.

(11) If, following the issuance of a citation and any protective orders, the chemical manufacturer, importer, or employer continues to withhold the information, the matter is referrable to the Occupational Safety and Health Review Commission for enforcement of the citation. In accordance with Commission rules, the Administrative Law Judge may review the

citation and supporting documentation in camera or issue appropriate protective orders.

(12) Notwithstanding the existence of a trade secret claim, a chemical manufacturer, importer, or employer shall, upon request, disclose to the Assistant Secretary any information which this section requires the chemical manufacturer, importer, or employer to make available. Where there is a trade secret claim, such claim shall be made no later than at the time the information is provided to the Assistant Secretary so that suitable determinations of trade secret status can be made and the necessary protections can be implemented.

(13) Nothing in this paragraph shall be construed as requiring the disclosure under any circumstances of process or percentage of mixture information which is trade secret.

(j) Effective dates. Employers shall be in compliance with this section within the following time periods:

(1) Chemical manufacturers and importers shall label containers of hazardous chemicals leaving their workplaces, and provide material safety data sheets with initial shipments by November , 1985.

(2) Distributors shall be in compliance with all provisions of this section applicable to them by November , 1985.

(3) Employers shall be in compliance with all provisions of this section by May , 1986, including initial training for all current employees.

APPENDIX A, HEALTH HAZARD DEFINITIONS (Mandatory)

Although safety hazards related to the physical characteristics of a chemical can be objectively defined in terms of testing requirements (e.g. flammability), health hazard definitions are less precise and more subjective. Health hazards may cause measurable changes in the body--such as decreased pulmonary function. These changes are generally indicated by the occurrence of signs and symptoms in the exposed employees -- such as shortness of breath, a non-measurable, subjective feeling. Employees exposed to such hazards must be apprised of both the change in body function and the signs and symptoms that may occur to signal that change.

The determination of occupational health hazards is complicated by the fact that many of the effects or signs and symptoms occur commonly in non-occupationally exposed populations, so that effects of exposure are difficult to separate from normally occurring illnesses. Occasionally, a substance causes an effect that is rarely seen in the population at large, such as angiosarcomas caused by vinyl

chloride exposure, thus making it easier to ascertain that the occupational exposure was the primary causative factor. More often, however, the effects are common, such as lung cancer. The situation is further complicated by the fact that most chemicals have not been adequately tested to determine their health hazard potential, and data do not exist to substantiate these effects.

There have been many attempts to categorize effects and to define them in various ways. Generally, the terms "acute" and "chronic" are used to delineate between effects on the basis of severity or duration. "Acute" effects usually occur rapidly as a result of short-term exposures, and are of short duration. "Chronic" effects generally occur as a result of long-term exposure, and are of long duration.

The acute effects referred to most frequently are those defined by the American National Standards Institute (ANSI) standard for Precautionary Labeling of Hazardous Industrial Chemicals (Z129.1-1982) -- irritation, corrosivity, sensitization and lethal dose. Although these are important health effects, they do not adequately cover the considerable range of acute effects which may occur as a result of occupational exposure, such as, for example, narcosis.

Similarly, the term chronic effect is often used to cover only carcinogenicity, teratogenicity, and mutagenicity. These

effects are obviously a concern in the workplace, but again, do not adequately cover the area of chronic effects, excluding, for example, blood dyscrasias (such as anemia), chronic bronchitis and liver atrophy.

The goal of defining precisely, in measurable terms, every possible health effect that may occur in the workplace as a result of chemical exposures cannot realistically be accomplished. This does not negate the need for employees to be informed of such effects and protected from them.

Appendix B, which is also mandatory, outlines the principles and procedures of hazard assessment.

For purposes of this section, any chemicals which meet any of the following definitions, as determined by the criteria set forth in Appendix B are health hazards:

1. Carcinogen: A chemical is considered to be a carcinogen if:

(a) It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or

(b) It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or,

(c) It is regulated by OSHA as a carcinogen.

2. Corrosive: A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. For example, a chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described by the U.S. Department of Transportation in Appendix A to 49 CFR Part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four hours. This term shall not refer to action on inanimate surfaces.

3. Highly toxic: A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose (LD_{50}) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose (LD_{50}) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC_{50}) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume,

or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

4. Irritant: A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for four hours exposure or by other appropriate techniques, it results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques.

5. Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

6. Toxic. A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose (LD_{50}) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose (LD_{50}) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC 50), in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

7. Target organ effects.

The following is a target organ categorization of effects which may occur, including examples of signs and symptoms and chemicals which have been found to cause such effects. These examples are presented to illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not intended to be all-inclusive.

a.	Hepatotoxins:	Chemicals which produce liver damage
	Signs & Symptoms:	Jaundice; liver enlargement
	Chemicals:	Carbon tetrachloride; nitrosamines
b.	Nephrotoxins:	Chemicals which produce kidney damage
	Signs & Symptoms:	Edema; proteinuria
	Chemicals:	Halogenated hydrocarbons; uranium
c.	Neurotoxins:	Chemicals which produce their primary toxic effects on the nervous system
	Signs & Symptoms	Narcosis; behavioral changes; decrease in motor functions
	Chemicals:	Mercury; carbon disulfide
d.	Agents which act on the blood or hemato-poietic system:	Decrease hemoglobin function; deprive the body tissues of oxygen
	Signs & Symptoms:	Cyanosis; loss of consciousness
	Chemicals:	Carbon monoxide; cyanides
e.	Agents which damage the lung:	Chemicals which irritate or damage the pulmonary tissue
	Signs & Symptoms:	Cough; tightness in chest; shortness of breath
	Chemicals:	Silica; asbestos
f.	Reproductive toxins:	Chemicals which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)
	Signs & Symptoms:	Birth defects; sterility
	Chemicals:	Lead; DBCP
g.	Cutaneous hazards:	Chemicals which affect the dermal layer of the body

	Signs & Symptoms:	Defatting of the skin; rashes; irritation
	Chemicals:	Ketones; chlorinated compounds
h.	Eye hazards:	Chemicals which affect the eye or visual capacity
	Signs & Symptoms:	Conjunctivitis; corneal damage
	Chemicals:	Organic solvents; acids

APPENDIX B, HAZARD DETERMINATION (Mandatory)

The quality of a hazard communication program is largely dependent upon the adequacy and accuracy of the hazard determination. The hazard determination requirement of this standard is performance-oriented. Chemical manufacturers, importers, and employers evaluating chemicals are not required to follow any specific methods for determining hazards, but they must be able to demonstrate that they have adequately ascertained the hazards of the chemicals produced or imported in accordance with the criteria set forth in this Appendix.

Hazard evaluation is a process which relies heavily on the professional judgment of the evaluator, particularly in the area of chronic hazards. The performance-orientation of the hazard determination does not diminish the duty of the chemical manufacturer, importer or employer to conduct a thorough evaluation, examining all relevant data and producing a scientifically defensible evaluation. For purposes of this standard, the following criteria shall be used in making hazard determinations that meet the requirements of this standard.

1. Carcinogenicity: As described in paragraph (d)(4) and Appendix A of this section, a determination by the National Toxicology Program, the International Agency for Research on Cancer, or OSHA that a chemical is a carcinogen or potential carcinogen will be considered conclusive evidence for purposes of this section.

2. Human data: Where available, epidemiological studies and case reports of adverse health effects shall be considered in the evaluation.

3. Animal data: Human evidence of health effects in exposed populations is generally not available for the majority of chemicals produced or used in the workplace. Therefore, the available results of toxicological testing in animal populations shall be used to predict the health effects that may be experienced by exposed workers. In particular, the definitions of certain acute hazards refer to specific animal testing results (see Appendix A).

4. Adequacy and reporting of data. The results of any studies which are designed and conducted according to established scientific principles, and which report statistically significant conclusions regarding the health effects of a chemical, shall be a sufficient basis for a hazard determination and reported on any material safety data sheet.

The chemical manufacturer, importer, or employer may also report the results of other scientifically valid studies which tend to refute the findings of hazard.

APPENDIX C, INFORMATION SOURCES (Advisory)

The following is a list of available data sources which the chemical manufacturer, importer, or employer may wish to consult to evaluate the hazards of chemicals they produce or import:

-- Any information in their own company files such as toxicity testing results or illness experience of company employees.
-- Any information obtained from the supplier of the chemical, such as material safety data sheets or product safety bulletins.
-- Any pertinent information obtained from the following source list (latest editions should be used):

Condensed Chemical Dictionary
Van Nostrand Reinhold Co.
135 West 50th Street
New York, NY 10020

The Merck Index: An Encyclopedia of Chemicals and Drugs
Merck and Company, Inc.
126 E. Lincoln Avenue
Rahway, NJ 07065

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man
Geneva: World Health Organization
International Agency for Research on Cancer, 1972-1977
(Multivolume work)
49 Sheridan Street
Albany, New York

Industrial Hygiene and Toxicology, by F.A. Patty
John Wiley & Sons, Inc.
New York, NY
(Five volumes)

Clinical Toxicology of Commercial Products
Gleason, Gosselin and Hodge

Casarett and Doull's
Toxicology; The Basic Science of Poisons,
Doull, Klaassen, and Amdur
Macmillan Publishing Co., Inc.
New York, NY

Industrial Toxicology, by Alice Hamilton and Harriet L. Hardy
Publishing Sciences Group, Inc.
Acton, MA

Toxicology of the Eye, by W. Morton Grant
Charles C. Thomas
301-327 East Lawrence Avenue
Springfield, IL

Recognition of Health Hazards in Industry
William A. Burgess
John Wiley and Sons
605 Third Avenue
New York, Ny 10158

Chemical Hazards of the Workplace
Nick H. Proctor and James P. Hughes
J.P. Lipincott Company
6 Winchester Terrace
New York, NY 10022

Handbook of Chemistry and Physics
Chemical Rubber Company
18901 Cranwood Parkway
Cleveland, OH 44128

Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment with Intended Changes
American Conference of Governmental Industrial Hygienists
6500 Glenway Avenue, Bldg. D-5
Cincinnati, OH 45211

NOTE: the following documents are on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Occupational Health Guidelines
NIOSH/OSHA (NIOSH Pub. No. 81-123)

NIOSH/OSHA Pocket Guide to Chemical Hazards
NIOSH Pub. No. 78-210

Registry of Toxic Effects of Chemical Substances
U.S. Department of Health and Human Services
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health
(NIOSH Pub. No. 80-102)

The Industrial Environment - Its Evaluation and Control
U.S. Department of Health and Human Services
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health
(NIOSH Pub. No. 74-117)

Miscellaneous Documents - National Institute for Occupational Safety and Health

1. Criteria for a recommended standard . . . Occupational Exposure to " _____ "
2. Special Hazard Reviews
3. Occupational Hazard Assessment
4. Current Intelligence Bulletins

BIBLIOGRAPHIC DATA BASES

Service Provider	File Name
Bibliographic Retrieval Services (BRS) Corporation Park, Bldg. 702 Scotia, New York 12302	AGRICOLA BIOSIS PREVIEWS CA CONDENSATES CA SEARCH DRUG INFORMATION MEDLARS MEDOC NTIS POLLUTION ABSTRACTS SCIENCE CITATION INDEX SSIE

Lockheed - DIALOG Lockheed Missiles & Space Company, Inc. P.O. Box 44481 San Francisco, CA 94144	AGRICOLA BIOSIS PREV. 1972-PRESENT BIOSIS PREV. 1969-71 CA CONDENSATES 1970-71 CA SEARCH 1972-76 CA SEARCH 1977-PRESENT CHEMNAME CONFERENCE PAPERS INDEX FOOD SCIENCE & TECH. ABSTR. FOODS ADLIBRA INTL. PHARMACEUTICAL ABSTR. NTIS POLLUTION ABSTRACTS SCISEARCH 1978-PRESENT SCISEARCH 1974-77 SSIE CURRENT RESEARCH
SDC - ORBIT SDC Search Service Department No. 2230 Pasadena, CA 91051	AGRICOLA BIOCODES BIOSIS/BIO6973 CAS6771/CAS7276 CAS77 CHEMDEX CONFERENCE ENVIROLINE LABORDOC NTIS POLLUTION SSIE
Chemical Information System (CIS) Chemical Information Systems, Inc. 7215 Yorke Road Baltimore, MD 21212	Structure & Nomenclature Search System Acute Toxicity (RTECS) Clinical Toxicology of Commercial Products Oil and Hazardous Materials Technical Assistance Data System
National Library of Medicine Department of Health and Human Services Public Health Service National Institutes of Health Bethesda, MD 20209	Toxicology Data Bank (TDB) MEDLINE TOXLINE CANCERLIT RTECS

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OSHA ISSUES FINAL HAZARD COMMUNICATION STANDARD

More than 14 million workers in 300,000 manufacturing establishments will gain greater access to information on the chemical hazards with which they work under a new Occupational Safety and Health Administration standard, the Department of Labor announced today.

"I believe this is the most significant regulatory action ever taken by OSHA," said Assistant Secretary of Labor Thorne G. Auchter, who heads OSHA. "The hazard communication standard will require that people who work with hazardous substances are aware of the dangers and are trained to effectively protect themselves.

"We estimate there may be as many as 575,000 chemical products in American workplaces, with new chemicals being introduced every day. Workers need to know which chemicals are hazardous and how to protect themselves against those hazards. The three components of OSHA's hazard communication program -- labels or other signs, material safety data sheets and worker training -- will meet this need.

"This standard represents an approach to regulation designed to respond to evolving workplace conditions," Auchter added. "It is an approach endorsed by mainstream safety and health professionals in government, labor and management.

"It also underscores our commitment in this administration to provide basic, useful safety and health information directly to the people who need it -- the working men and women of this country. This standard differs from a proposed labeling standard issued in the final week of the previous administration in that it doesn't rely exclusively on technical information about chemical substances printed on labels. This standard mandates communication about workplace hazards between employers and employees. That is a major step toward improved safety and health."

Auchter noted that this action comes less than three weeks after the Labor Department published an emergency temporary standard reducing by 75 percent the permissible exposure limit to cancer-causing asbestos fibers. That standard, said Auchter, was intended to achieve an immediate reduction of risk to exposed workers and, like hazard communication, it required comprehensive hazard awareness and safety training for workers.

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"Awareness is the first and best step toward improved safety and health;" Auchter said. He added that a Bureau of Labor Statistics survey showing significant reductions in workplace injuries and illnesses in 1982 and his own agency's fiscal year 1983 data showing increased OSHA consultation and training efforts and a higher enforcement presence in high hazard industries, indicate that American workers and employers are rapidly reducing workplace hazards. "This new hazard communication standard will greatly accelerate that kind of real progress," Auchter predicted.

Under the standard labels on containers of hazardous chemicals will provide an immediate warning to the worker. More detailed information on the chemical and its hazards, will be available on a material safety data sheet, which the employer will keep readily accessible. The worker will be trained to interpret and understand labels and material safety data sheets, and to safely handle hazardous substances.

The hazard communication program is designed to be a valuable tool for both employers and employees in implementing or strengthening occupational health programs, which help reduce occupational illnesses and injuries resulting from chemical exposures.

The standard will set forth uniform national requirements for hazard communication. Many states and localities already have in place or are considering similar statutes. OSHA's standard will preempt these laws in states which do not have OSHA approved job safety and health plans.

Specifically, by November 25, 1985, OSHA's hazard communication standard requires chemical manufacturers and importers to assess the hazards of chemicals they sell. They are to provide hazard information through warning labels affixed to all containers of their products and through provision of material safety data sheets to all employers in manufacturing establishments in Standard Industrial Classification (SIC) codes 20-39. Labels are to include the identity of the chemical, hazard warnings and the name and address of the manufacturer, importer or responsible party. Chemical distributors also must adhere to the labeling requirements and must ensure that material safety data sheets are provided as required. For stationary containers, signs, placards, process sheets, batch tickets, etc., may be used.

By May 27, 1986, manufacturing employers are required to label certain in-plant containers, to inform workers of hazards within their work areas, to make material safety data sheets or comparable written information available to employees, and to train workers to protect themselves when dealing with specific chemical hazards. Employers must develop written hazard communication programs outlining their plans to accomplish these objectives.

The standard sets a "floor" of about 600 substances regulated by OSHA or listed as hazards by the American Conference of Governmental Industrial Hygienists which will automatically be considered hazardous. It also includes criteria for determining health hazards. The chemical manufacturer will have to evaluate all its chemicals to determine whether they pose such hazards. In determining carcinogenicity, the chemical manufacturer/importer must at least treat OSHA-regulated carcinogens and any substances listed as such by the National Toxicology

Program or the International Agency For Research on Cancer. Mixtures are treated differently depending on whether there is data on the mixture or only on its individual components and on whether there is a physical or a health hazard involved.

Detailed provisions are included in the standard for protecting bona fide trade secrets, and disclosing necessary information to health professionals providing occupational health services to exposed employees. In emergencies, chemical manufacturers and importers must reveal the specific chemical identity of a hazardous chemical to treating physicians and nurses on request. In non-emergency situations, health professionals must justify in writing the need for the specific identity of any chemical a manufacturer or importer claims is a trade secret and provide written assurance that confidentiality will be maintained.

The standard authorizes the use of confidentiality agreements to protect trade secret information. In any case, the chemical manufacturer or importer must disclose the hazards posed by a chemical regardless of its trade secret status. The standard gives OSHA access to trade secrets when necessary. It also specifies the administrative review and enforcement procedures that are in place to handle disputed trade secret claims.

Initial costs of the standard are expected to be $603.926 million or $43 per employee with annual costs of $158.87 million or $11 per employee--slightly higher than costs anticipated in the proposal. These costs represent less than one-quarter of the initial cost of the labelling proposal issued by the previous Administration and less than 15 percent of the annual costs expected under that proposal.

Benefits of the hazard communication standard include increased employee awareness of hazards and increased compliance with protective measures. These in turn will result in lower incidences of chemically-related injury and illness on the job. Further, the OSHA standard will reduce the costs involved with complying with diverse state and local standards.

OSHA originally proposed a chemical labelling standard Jan. 16, 1981. That proposal was withdrawn Feb. 12, 1981 and a new hazard communication proposal was subsequently published in the March 19, 1982 Federal Register. Hearings were held in June and July 1982 in Washington, Houston, Los Angeles and Detroit.

OSHA plans to develop various means of describing and explaining the provisions of the final standard to affected parties. The agency is considering a number of options to accomplish this, including sponsoring seminars as well as providing written materials. OSHA invites suggestions from interested parties regarding the most effectve means to ensure the provisions are understood so that employers may comply with the requirements. Suggestions should be directed to Jennifer Silk, OSHA Health Standards, Room N-3700, Frances Perkins Bldg., Third St. and Constitution Ave,, N.W., Washington, D.C. 20210, telephone (202) 523-7166.

Jurisdictions with their own safety and health plans must adopt a comparable standard by May 25, 1984. These jurisdictions include: Alaska, Ariz., Calif., Conn. (covers state and local government employees only), Hawaii, Ind., Iowa, Ky., Md., Mich., Minn., Nev., N.M., N.C., Ore., Puerto Rico, S.C., Tenn., Utah, Vt., Va., Virgin Islands, Wash., Wyo.

A brochure "Chemical Hazard Identification" which covers major provisions of the standard is available from OSHA. Interested persons should send a self-addressed mailing label to Hazard Communication, OSHA Publications, Room N-4101, Frances Perkins Bldg., Third St. and Constitution Ave., Washington, D.C. 20210.

OSHA's hazard communication standard is scheduled for publication in the November 25 Federal Register.

A fact sheet with highlights of the hazard communication standard is attached.

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HIGHLIGHTS OF OSHA'S HAZARD COMMUNICATION STANDARD

Purpose

-- To ensure the evaluation of chemicals to determine their hazards.

-- To apprise workers in manufacturing industries of the hazards with which they work.

-- To preempt state laws covering hazard communication in states without state OSHA plans; to require OSHA approval for state hazard communication laws in states operating their own OSHA programs.

Scope

-- Covers 14 million employees in 300,000 manufacturing establishments in SIC codes 20-39. These industries include: 20) Food and Kindred Products; 21) Tobacco Manufacturers; 22) Textile Mill Products; 23) Apparel and Other Textile Products; 24) Lumber and Wood Products; 25) Furniture and Fixtures; 26) Paper and Allied Products; 27) Printing and Publishing; 28) Chemicals and Allied Products; 29) Petroleum and Coal Products; 30) Rubber and Plastic Products; 31) Leather and Leather Products; 32) Stone, Clay and Glass Products; 33) Primary Metal Industries; 34) Fabricated Metal Products; 35) Machinery, Except Electrical; 36) Electrical Equipment and Supplies; 37) Transportation Equipment; 38) Instruments and Related Products; and 39) Miscellaneous Manufacturing Products.

-- Requires chemical manufacturers and importers to assess hazards, develop labels and material safety data sheets and forward this information to manufacturers.

-- Makes manufacturing employers responsible for informing and training workers about the hazards in their workplaces, retaining warning labels and making available material safety data sheets supplied with hazardous products.

-- Exempts chemical laboratories in manufacturing from labeling provisions of standard, but otherwise provides for limited coverage of laboratory employees.

-- Exempts hazardous wastes, wood, tobacco, "articles" and potentially hazardous substances such as drugs, food, and cosmetics brought into the workplace for the personal consumption of employees.

-- Permits the use of labels required by other federal agencies in lieu of those otherwise required under this standard.

Hazard Determination

-- Written hazard evaluation procedures are required.

-- Physical hazards include chemicals which are combustible liquids, compressed gases, explosive, flammable, organic peroxides, oxidizers, pyrophorics, unstable (reactive), or water-reactive.

-more-

-- Health hazards include chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system and agents which damage the lungs, skin, eyes or mucous membranes. (See Appendix A of the standard.)

-- Determining health hazards (Appendix B)

1) If one or more positive studies--human and/or animal data--which are conducted according to accepted scientific principles and have statistically significant results which show adverse health effects that may occur as a result of employee exposure, these must be reported. Negative data believed to be relevant also may be reported.

2) The standard establishes a "floor" of about 600 substances automatically considered health hazards--substances regulated by OSHA and/or listed by the American Conference of Governmental Industrial Hygienists in Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment.

3) In determining carcinogenicity, chemical manufacturers/importers are to rely on the National Toxicology Program, the International Agency for Research on Cancer and OSHA standards.

4) Mixtures are to be evaluated for health hazards on the basis of data covering them or on the basis of data on any constituent chemical which comprises 1 percent or more of the mixture. If a constituent chemical comprises 0.1 percent or more and is a carcinogen, the mixture must be considered carcinogenic. If a mixture component represents less than 1 percent but might result in workplace exposures exceeding OSHA permissible exposure limits or in harm to workers, this must be reported.

Written Hazard Communication Program

-- To be in writing and to be available to employees, designated representatives, OSHA and NIOSH.

-- To cover container labeling, material safety data sheets and employee training.

-- To include a list of hazardous chemicals in each work area, describe how the employer will meet criteria of the standard, explain methods for communicating hazards to employees involved in nonroutine tasks and to those who work in areas where there are unlabeled pipes, explain the methods used to inform contractors of hazards to which their employees may be exposed.

Labels

-- Affixed by manufacturer, importer or distributor to shipped containers.

-- Include identity (chemical and common names), hazard warnings and name and address of the manufacturer or responsible party. Must be legible, and in English. Must not be removed or defaced. May follow format required by other federal agency or foreign entity such as the European Economic Community. New labels not necessary if current ones provide required information.

-- Not conflict with labels required by the Department of Transportation under the Hazardous Materials Transportation Act.

-- Affixed by employer to other containers used in-plant by employees except: signs or placards or standard operating procedures, process sheets, batch tickets, blend tickets, etc. may be used for stationary containers.

-- Exempt: pipes and piping systems as well as in-plant containers for immediate use only of employee who transfers chemicals from labeled containers.

Material Safety Data Sheets

-- Manufacturers, importers and distributors to forward at the time of initial shipment to an employer.

-- Employers required to obtain and maintain MSDS for each hazardous chemical in their workplace.

-- Information must be in English, include identity and chemical and common names for the hazardous chemical. Mixtures to receive special treatment (see Hazard Determination above).

-- One MSDS may be used for similar mixtures with essentially the same hazards and contents.

-- MSDS must also include information specified on physical and chemical characteristics of the hazardous chemical; known acute and chronic health effects and related information; information on exposure limits and whether OSHA, the International Agency for Research on Cancer or the National Toxicology Program consider the chemical a carcinogen; precautionary measures; emergency and first aid procedures; date of preparation; and identification of the party responsible for the MSDS.

-- No blank spaces permitted; spaces should be marked when information is not found or not applicable.

-- New information to be incorporated on MSDS within three months following the manufacturer's receipt of the information. New MSDS to be transmitted with the next shipment of the chemical to the employer.

-- Copies of MSDS or comparable written document to be available in the workplace to employees, designated employee representatives, OSHA and NIOSH.

-more-

Employee Information and Training

-- To take place upon initial assignment and when new hazards are introduced.

-- To include: requirements of the standard; operations in the workplace where hazardous chemicals are used; location of written hazard communication program, material safety data sheets, written hazard evaluation procedures and lists of hazardous chemicals; procedures for determining the presence of a hazardous chemical; specific hazards of specific chemicals in employees' work area; protective measures employer has instituted and employees are to follow to protect themselves; how to read and interpret information on labels and material safety data sheets and how to get and use the available hazard information.

Trade Secrets

-- Manufacturer, importer or employer may withhold the specific chemical identity (chemical name, Chemical Abstracts Services registry number) from an MSDS if this information constitutes a trade secret; provided information on the hazardous nature of the chemical is disclosed on the MSDS and if the MSDS indicates that the specific chemical identity is being withheld because it is a trade secret.

-- Trade secret information must be disclosed to OSHA upon request.

-- Trade secret processes and percentage of mixture information are excluded from disclosure requirements.

-- In emergencies the specific identity must be provided immediately upon request to a treating physician or nurse.

-- Non-emergency situations

1) The specific chemical identity must be made available to health professionals such as physicians, industrial hygienists, toxicologists and others providing medical or occupational health services to exposed employees upon written request.

2) Written requests must describe the medical or occupational health need such as: to assess the hazards of chemicals to which employees will be exposed; to conduct or assess sampling of workplace atmosphere to determine employee exposure levels; to conduct pre-assignment or periodic medical surveillance of exposed employees; to provide medical treatment to exposed employees; to select or assess appropriate personal protective equipment for exposed employees; to design or assess engineering controls or other protective measures for exposed employees; to conduct studies to determine the health effects of exposure.

3) The request must explain why the following types of information would be insufficient: properties and effects of the chemical; measures for controlling workers' exposure to the chemical; methods of monitoring and analyzing worker exposure to the chemical; methods of diagnosing and treating harmful exposures to the chemical.

-- Confidentiality

1) The request must describe procedures to be used to protect the confidentiality of the information and include a written agreement not to use the information for any purpose other than the health need or to release it except to OSHA and be signed by both the health professional and the employer or contractor of the health professional's services.

2) No penalty bond may be required; however, a liquidated damages agreement may be required and the parties may pursue non-contractual remedies to the extent permitted by law.

3) If the health professional decides to disclose the information to OSHA, he/she must inform the chemical manufacturer, importer or employer who provided the information.

-- Denials

1) Denials of health professionals' written requests for the specific identity of a chemical must be in writing within thirty days of the request and must include evidence to support the claim that the chemical identity is a trade secret, state the specific reasons for denial and explain in detail how alternative information may suffice.

2) If OSHA determines that the specific chemical identity does not represent a trade secret, the withholding manufacturer, importer or employer will be subject to citation. Likewise a citation may result if the specific chemical identity is a bona fide trade secret but the health professional has demonstrated a need to know the identity, executed a confidentiality agreement and shown adequate means for protecting the trade secret. Abatement of the citation will most likely involve divulging the information subject to confidentiality protections.

3) If the trade secret must be revealed, OSHA may impose additional limitations or conditions to assure that it is protected.

-- If the employer appeals the citation to the Occupational Safety and Health Review Commission, the administrative law judge may decide to review the matter in camera.

Effective Dates

-- November 25, 1985--Chemical manufacturers must complete labeling of containers shipped downstream and provide material safety data sheets to manufacturers.

-- May 27, 1986--All employers must be in compliance with all provisions of the standard.

# # #

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT.

Question

Substances exempt from list (18.60.105(a)(9)) (concentration, amount, personal use, transit) must remain on list if are on one of the 3 specified lists. However, not managed as toxic under SB 79.

? How designate those substances on the list that are exempt?

rec 8-9-84

MEMORANDUM State of Alaska

TO: Commissioner Jim Robison
Department of Labor

DATE: July 18, 1984

FILE NO: 166-010-85

TELEPHONE NO: 276-3550

FROM: Norman C. Gorsuch
Attorney General

By: Paul S. Stahl
Paul S. Stahl
Assistant Attorney General

SUBJECT: List of toxic and hazardous substances under "Right to Know" law (AS 18.60.010-.105)

You have asked three questions concerning Alaska's "Right to Know" law (AS 18.60.010-.105).

1) Can the Department publish its list of designated toxic and hazardous substances pursuant to AS 18.60.030(12) and AS 18.60.105(a) without going through the promulgation proceeding in the Administrative Procedure Act? yes only req'd when adding a substance that's not on one of the 3 lists

2) Is the list of toxic and hazardous substances required to be published under AS 18.60.030(12) intended to be coextensive with the chemicals and substances identified in AS 18.60.105(a)? yes so Dept. list must include the other 3 lists

3) Does the Department have the authority, under AS 18.60-.105(9)(A), to promulgate regulations excluding from its list of toxic and hazardous substances certain chemicals listed under AS ~~18~~ 18.60.105(A) and (B)? so substances stay on list, but aren't managed as "toxic" no

In answer to the first question we conclude that the Department can publish the list of toxic and hazardous substances without going through the promulgation procedures set out in the Administrative Procedure Act, AS 44.62.010-44.62.650. Regarding the second question, as the list to be published by the Department includes those chemicals and substances described in AS 18.60.105(a)(8)(A), (B), (C) and (D), they are coextensive. In answer to the third question, the Department does not have the authority to exclude those substances described under either AS 18.60.105(a)(8)(A) or (B) from the list of toxic and hazardous substances.

Your request concerns the effect of the recently enacted "Right to Know" law, AS 18.60.010-.105. AS 18.60.030(12) provides, "The Department of Labor shall annually publish a list of toxic and hazardous substances."

"Toxic and hazardous substances" is defined in AS 18.60.105(a), which provides:

(8) "toxic or hazardous substance" includes

(A) a chemical listed in 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, "General Industry Standards", Occupational Safety and Health Administration;

(B) a chemical listed in "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment", American Conference of Governmental Industrial Hygienists (Latest Edition);

(C) a substance for which an OSHA form 20 or equivalent information is required under OSHA regulations; and

(D) a substance determined by the department, in accordance with the Administrative Procedure Act (AS 44.62), to be a health hazard to an employee who is exposed to the substance, including a carcinogen, reproductive toxin, irritant, corrosive, sensitizer, hepatotoxin, nephrotoxin, neurotoxin, agent that acts on the hematopoietic system, agent that damages the lungs, a cutaneous hazard and an eye hazard;

(9) "toxic or hazardous substance" does not include

(A) substances that because of their physical state, volume, or concentration do not pose a health hazard upon exposure;

(B) substances that are goods, food, drugs, cosmetics, or tobacco products intended for personal consumption;

(C) substances in transit;

Your question is whether, in publishing this list, the Department must follow the requirements for promulgating regulations in the Administrative Procedures Act, AS 44.52.010-44.62.650. The term "regulation" as defined in AS 44.62.640(a)(2), includes the following:

> "manuals," "policies," "instructions," "guides to enforcement," "interpretive bulletins," "interpretations," and the like, which have the effect of rules, orders, regulations or standards of general application.

The label which is attached to a statement by the Department does not determine the applicability of the APA. The "list" of toxic

and hazardous substances could be a regulation if it had the effect of rules, orders, regulations or standards of general application. Kenai Peninsula Fisherman's Cooperative Association v. State, 628 P.2d 897, 905 (Alaska 1981).

The list of toxic and hazardous substances should not be considered a regulation. The Department is not exercising any discretion. The list is merely a compilation of chemicals and substances from sources already identified by the legislature. AS 18.60.105(a)(8)(A), (B) and (C).

The legislature has also empowered the Department to determine other substances which are hazardous upon exposure. AS 18.60.105(a)(8)(D). This latter provision explicity requires that the Department follow the Administrative Procedure Act ("APA") when making that determination under AS 18.60-.105(a)(8)(D). While the compilation of the list from the sources identified in AS 18.60.105(a)(8)(A), (B) and (C) does not have to follow the requirements for promulgating regulations of the APA, the APA must be followed when the Department is exercising its discretion pursuant to AS 18.60.105(a)(8)(D).

The list mandated by AS 18.60.030(12) will be coextensive with the provisions of AS 18.60.105(a). Thus, at a minimum, the list published by the Department must include substances or chemicals from the sources identified in AS 18.60.105(a)(8)(A), (B) and (C). Any additional substances which the Department determines to be hazardous upon exposure pursuant to AS 18.60.105(a)(8)(D) must also be included on the list.

In publishing this list, however, you cannot exclude substances the legislature has specifically declared to be hazardous or toxic. Substances which appear on the list are not considered to be toxic or hazardous when the substance's state, volume or concentration cause that substance not to be a hazard upon exposure. AS 18.60.105(a)(9)(A). However, under that circumstance, the substance itself would remain on the list.

An example illustrates this point. AS 18.60-.105(a)(9)(C) provides that "substances in transit" are not toxic or hazardous for purposes of the statute. Therefore, when PCBs are "in transit" they are not considered toxic or hazardous for purposes of the statute. However, PCBs would certainly remain on the list of toxic and hazardous substances.

In summary, we conclude that the Department need not follow APA procedures when publishing the list of toxic and hazardous substances. However, those procedures must be

followed each time the Department makes a determination under AS 18.60.105(a)(8)(D) to add a new substance to those which the legislature has specifically included in the list. The list required by AS 18.60.030(2) will be coextensive with the chemicals and substances listed under AS 18.60.105(8). The Department does not have the authority to exclude chemicals identified by AS 18.60.105(a)(8)(A) and (B) from the list. A substance's physical state, volume or concentration can result in its not being considered toxic or hazardous, however, the substance itself would remain on the list.

PSS:jg

cc: Richard Arab

Special Report

Right-to-Know Laws in the States . . . An Emerging Issue for the Eighties?

So-called "right-to-know" legislation is proliferating in state legislatures—and even in some city and county councils. These laws attempt, in a variety of ways, to inform workers, emergency service personnel, and the public of hazards that may exist because of the presence of chemical substances. Right-to-know legislation is not only a major state legislative area; it is a major *new* legislative area.

by Barney Wander

Up to now, most efforts to manage individual chemical substances have been concentrated at the federal level. The U.S. Toxic Substances Control Act (TSCA), for example, requires that health, safety, and other information be collected and maintained for all chemicals, and that these substances be managed to prevent harm to people or the environment. TSCA preempts state activity in this area.

The reason for TSCA's preemptive status is obvious: if a substance is hazardous in Alabama, it will be equally hazardous in Alaska. Chemicals do not change physical properties when they cross geographic boundaries. Another federal preemptive law is the Food, Drug, and Cosmetics Act; if food additive or drug requirements were individually—and differently—prescribed by each state, the result would be chaotic. There is even international cooperation in these areas to achieve uniformity.

The entry of states into the regulation of individual chemical substances raises dramatic new questions for state legislatures and regulatory agencies in an area where there traditionally has been little activity or experience.

The States Take a Hand

The obvious question of whether states should become involved in the right-to-know area at all will be addressed later, but it should first be understood why the issue is now coming before state legislatures.

The first workplace right-to-know law in the United States was enacted by the Oregon legislature in 1979; the first public right-to-know law was promulgated in Philadelphia in 1981. In the final hours of the Carter administration in January 1981, the U.S. Occupational Safety and Health Administration (OSHA) proposed a nationwide workplace right-to-know regulation. This rule was withdrawn by the incoming Reagan administration, and it was not until March 1982 that OSHA proposed an alternative, which was revised and reissued as a final rule in November 1983.

This apparent foot-dragging by the federal government prompted many proponents of right-to-know legislation to shift their focus from the federal to the state level. These proponents—principally labor unions and environmental activist organizations—believed industry was not doing enough to inform workers about workplace hazards, or to inform public agencies and the public about potential environmental problems. Growing media attention to a wide variety of incidents involving chemicals—whether related to right-to-know issues or not—helped support this view.

Some state and local emergency response agencies believed they did not have enough information to deal with accidents involving chemicals. The general public's fear of "chemicals" in the 1970s began to be replaced in the 1980s with concern over specific chemical substances, and mistrust of industry spread to doubts about the ability of government and the scientific community to control them. Various industrialized areas of the country each believed that the incidence of chronic diseases such as cancer in their locality was higher than anyone else's, despite scientific evidence to the contrary.

Misconceptions

All these factors fed the fight for right-to-know legislation at the state level, but they also led to public misconceptions about what right-to-know laws are designed to do.

Right-to-know laws do not regulate chemicals, nor, in and of themselves, do they protect workers or the public. They do not limit production of chemicals. They do not limit exposure to chemicals. They do not regulate the transportation of chemicals. These kinds of activities are already regulated—at the federal level and in most states—by existing laws enforced by the U.S. Environmental Protection Agency (EPA) or equivalent state agencies, or by OSHA and similar state regulators.

The only purpose of right-to-know laws, however, is to make information available to specified groups or individuals. In addition, major agreement has been reached

Barney Wander is a free-lance writer who specializes in environmental subjects.

on the kind of information which should be provided to employees. Major differences have arisen relative to specifying how that information should be transmitted or what mechanisms are needed to disseminate it.

Workers believe they have a "right" to enough information to protect their on-the-job safety and health. Labor unions believe they have a "right" to all the information known by industry. Industry believes it has the "right" to protect confidential business information. Environmental activists claim the public has the "right" to comprehensive information about chemicals that may be present in a state or community. Emergency response organizations say they have a "right" to the chemical information needed to respond to industrial accidents.

Who actually has a "right" to know information about chemicals, and what kind of information do they have a "right" to know? Which governmental agencies have the "right" to set the rules for "right-to-know" activities? These are the difficult questions currently being asked in state legislatures across the country; this article is an attempt to answer these and related questions, to help legislators reach informed positions on right-to-know issues.

Executive Summary

- The so-called "right-to-know" issue is a new one for state legislators, state regulators, and for the public. It involves issues and areas of expertise not usually found at the state level, and therefore exceptionally careful consideration is required before final legislative action should be taken.
- Right-to-know laws do not control chemicals or their use. They provide a mechanism for informing workers or the public about the existence of potential chemical hazards. Legislation should be performance-oriented and not overburdened with details that should be left to subsequent regulation.
- A host of federal and state laws and regulations already provide information about chemicals to workers and to the public. Principal among these is the new OSHA standard providing for a workplace hazard communication system. State legislatures should be cautious about reinventing existing wheels or establishing laws that conflict with federal or other state requirements. The need for a state right-to-know law should be very carefully considered, given the existence of so many other regulations and the possibility of violating Interstate Commerce Clause provisions.
- The cost of state right-to-know laws and regulations can be substantial, and it is the state's taxpayers who will ultimately bear these costs, directly or indirectly. These costs must be an integral part of any discussion of a proposed state right-to-know law.
- Before a state adopts its own right-to-know legislation, some principal considerations are: limiting the number of materials that will be included to those that truly are hazardous under actual conditions of use; determining ways to protect confidential business information and specifying mechanisms for dissemination of data; and building in flexibility to reduce costs and increase effectiveness.
- Other issues to be considered are: the right of workers to refuse to work if information is not provided, and the corresponding right of employers to protect themselves against harassment; the need to restrict right-to-know laws to realistic conditions; the need to limit and control the bureaucracies that will be created and the paperwork that will be generated; the need to restrict right-to-know laws to right-to-know issues.

Regulations in Force

Any discussion of the right-to-know issue should first consider how much information workers and the public already have about chemical substances.

Current federal environmental regulations (40 CFR Part 2, Subparts A and B) require that all EPA information be available to the public except where an individual's right to privacy would be violated, or when confidential business information is involved. A person requesting information from EPA need not state the reason why the information is sought.

Another broad requirement is found in the National Environmental Policy Act (42 USC 4341), which requires public environmental impact statements for all projects that might affect the environment; this even affects space shuttle and satellite launchings!

Under the Toxic Substances Control Act (15 USC 2601), EPA maintains information about more than 55,000 chemical substances; as new chemicals are introduced, they must be added to the list. The TSCA files include data about production, processing, distribution, use, exposure, and known adverse health and environmental effects. TSCA requires that allegations of previously unknown significant adverse effects to health or the environment be added as soon as they become known. Very little TSCA information has been claimed as confidential by industry, and such claims can be challenged.

Public exposure to chemicals occurs because of emissions from workplaces or from consumer products, and the identity of chemicals emitted from plants is controlled and made public by a number of laws. The Clean Air Act (42 USC 7401) requires that all emission data gathered by federal or state agencies be public. This information is exhaustive and voluminous for all industrial categories in the nation. The Clean Water Act (33 USC 1251) and the Safe Drinking Water Act (42 USC 300f) not only require that all information be public, but that the public participate in all stages of proposed projects—planning, implementation, and enforcement. The federal government must make air and water emission data public, regardless of whether these data are requested.

The Comprehensive Environmental Response, Compensation, and Liability Act, sometimes called the "Superfund" law (42 USC 9601), requires public notification and involvement. Whatever the failings of Superfund in achieving clean-up of abandoned hazardous waste sites, public involvement has not been one of them, as newspaper headlines for the past two years clearly indicate. The Resource Conservation and Recovery Act (42 USC 3251) requires public disclosure of information about chemical wastes and mandates public participation in the establishment of new hazardous waste management facilities.

A glance at the labels on products in supermarkets, pharmacies, or garden supply stores indicates just part of the information that must be made public under the Federal Food, Drug, and Cosmetics Act (21 USC 310) and the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136). Considerably more information is available, if requested, from the Food and Drug Administration (FDA) and EPA, the agencies that administer these acts.

The Consumer Product Safety Act (15 USC 2051) established an information clearinghouse that collects and disseminates information about manufactured products with which the public comes in direct contact. The Hazardous Materials Transportation Act (49 USC 1801) requires that information be publicly available regarding specifications, packaging, handling, manifesting, placarding, and routing—and mandates immediate notification when hazardous substances are involved in transportation accidents or pipeline leaks.

Finally, the Freedom of Information Act (5 USC 552) gives the public access to information not specifically made available by any of the laws mentioned above, within 10 days of a request for information.

Workers or their representatives have access to any of the information sources outlined above. In addition, the Occupational Safety and Health Act (29 USC 651) requires companies to keep logs of occupational injuries and illnesses, as well as maintain medical records. This information is available to employees or appropriate employee representatives. As will be explained below, OSHA regulations now include comprehensive worker right-to-know standards that affect all manufacturing workplaces in the United States that handle chemical substances.

Easy Access. Gaining access to so much information about chemicals is not as difficult as it might appear, given the voluminous amount of data available. Most of the information is contained in computer data banks. Many large public libraries, universities and medical schools, and most major corporations subscribe to these computer services. The number of scientific and technical articles that have been written about specific chemical substances and their effects is incalculable. Computer programs are being constructed to keep track of this information, too, and the information in most recently published scientific and technical publications is now available by computer within minutes. Other computer files contain data gathered by government and private agencies about hundreds of thousands of animal and laboratory tests of chemicals, and about human health studies.

With all of this available information, and with recent activity by OSHA (described in the next section) to ensure the availability of information to workers, there arises a very logical question: Why are state right-to-know laws needed at all?

Are State Laws Needed?

By late 1983, 16 states had adopted worker or public right-to-know laws. Such laws have been considered in at least 19 others. Thirty-four local ordinances currently address some right-to-know issues.

On Nov. 25, 1983, a major new development occurred at the federal level. After years of debate, discussion, disagreement, and delay, OSHA issued a standard concerning workers' right-to-know—or, to use federal terminology, "hazard communication."

Hazard Communication

The standard came in response to the federal Occupational Safety and Health Act, which authorizes OSHA to promulgate rules requiring the "use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed...." The final OSHA standard, therefore, requires employers to identify hazards and then communicate them to employees by means of hazard communication programs including labels, material safety data sheets, information and training, and access to written records. While not directly affecting workplace safety or health, OSHA has expressed the hope that the hazard communication program will provide an impetus for employees and employers to devise better means of protection from chemical hazards.

The new federal standard has one basic objective: to ensure the transmittal of complete hazard information from manufacturers to employees and to user companies. Each employer's program is subject to approval by OSHA compliance officers. The bulk of the hazard information will be produced by manufacturers and importers, and then sent to user companies by means of container labels and material safety data sheets.

The OSHA standard generally requires the disclosure of specific chemical identity information, which sometimes may be considered a trade secret. The final standard provides for limited disclosure of such trade secrets, which may require signing a confidentiality agreement that includes liquidated damages provisions. Thus trade secrets can be protected while still providing information when necessary to protect employee health. The Occupational Safety and Health Act provides protection for trade secret information whenever such information must be made available directly to OSHA.

In an effort to reduce costs, employers are not required routinely to submit information to OSHA; data must be submitted only when requested. Nevertheless, annual costs to industry of the new rule will be approximately $117.8 million, and about 328,000 workplaces will be affected. Since the program dovetails conveniently into OSHA's existing regulatory and enforcement programs, costs to the federal government will not be substantial. Industry will conduct (and therefore pay for) the program, rather than requiring the government to perform the program for industry.

The standard requires hazard information labels on all hazardous materials containers, the provision of Material Safety Data Sheets with initial shipments of a hazardous material, training programs for all employees, and employee access to written hazard information documents generated by their employer. All information must be updated and kept current.

Company Responsibility

The economic burden on any particular company will be in direct proportion to the size of the company. Chemical producers with extensive product lines will spend considerable time performing right-to-know activities, while smaller downstream manufacturers using a limited number of chemicals, and obtaining information from suppliers, will spend much less time on this function.

Each employer is responsible for maintaining a list of hazardous materials used in specific workplaces. Materials are determined to be hazardous if they meet certain criteria established in the standard. In addition, certain substances appearing on any one of specified existing lists, such as the OSHA Subpart Z list, are presumed to be hazardous. Employers can rely on existing hazard communication programs if they meet the performance requirements of the new standard, and there must be compatibility with other existing laws, such as the Hazardous Materials Transportation Act, to avoid conflicting information requirements.

Any chemical mixture is considered hazardous if it contains 1 percent or more of a known hazardous substance, or if it contains one-tenth of 1 percent or more of a known carcinogen. Manufacturers are allowed to keep secret the chemical identity of certain substances if they justify their claim of confidentiality, note that the identity is being withheld on the Material Safety Data Sheet, and agree to disclose the information in emergency situations.

This new OSHA regulation will probably influence the decision in many states about whether to adopt separate right-to-know law for workplaces. If, however, a state chooses to operate its own worker health and safety information program—in lieu of the federal OSHA program—it must adopt laws and regulations, including interstate provisions, that generally conform to these new federal requirements; otherwise, the state program will not be authorized by OSHA. While Congress did not make the Occupational Safety and Health Act preemptive of all state programs, it did provide that there should be considerable uniformity among state requirements by establishing federal rules as minimum, model standards.

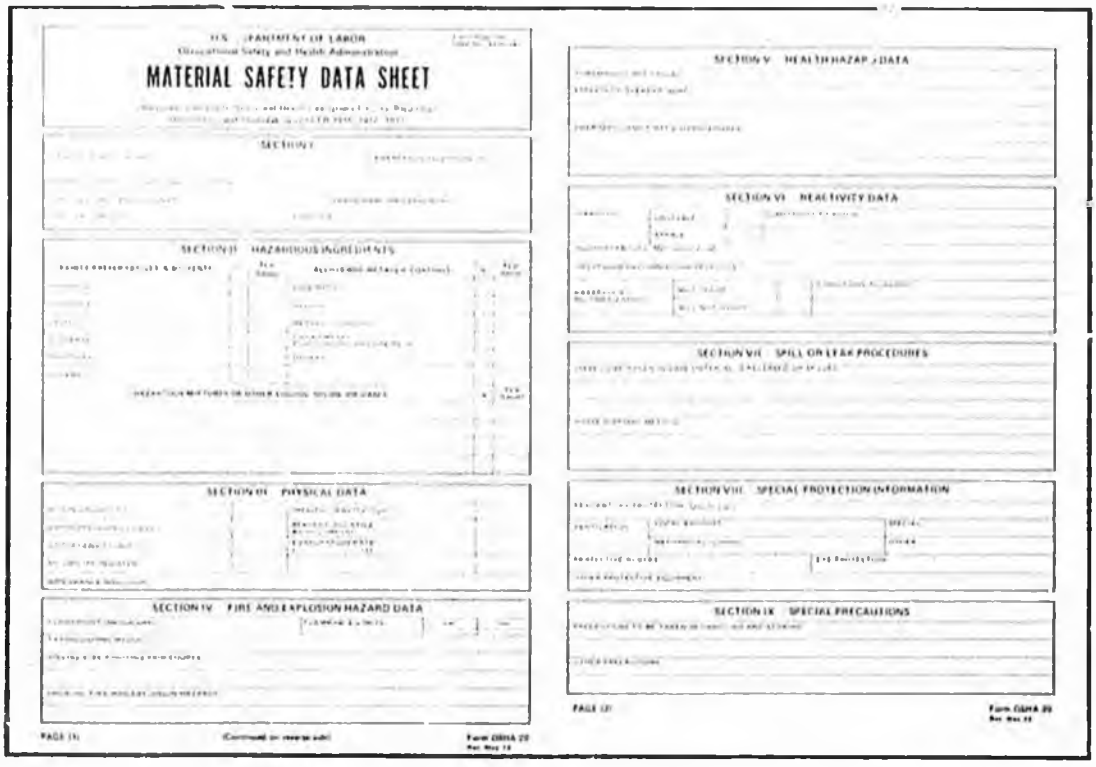
Regulatory Inconsistency

Twenty-four states have established their own worker safety and health agencies. These states must adopt worker right-to-know rules within six months in order to maintain OSHA approval of their state program. The new federal right-to-know standard adopted by OSHA will therefore apply automatically in all states that do not operate their own programs. The rule applies to all manufacturers in the United States. Retail and service industries are excluded.

In fact, problems created by individual state right-to-know laws may far outweigh any benefits these laws are designed to produce.

Workers and the materials they work with are both highly mobile. Increasingly, workers move from a plant in one state to a similar plant in another state. Few materials—particularly chemical substances—are distributed and used only intrastate. If differing state laws are created for situations that are constant, serious problems can result.

If one state tells a worker that a particular substance is hazardous, and another state does not, the worker may


MATERIAL SAFETY DATA SHEET

SECTION I

SECTION II HAZARDOUS INGREDIENTS

SECTION III PHYSICAL DATA

SECTION IV FIRE AND EXPLOSION HAZARD DATA

SECTION V HEALTH HAZARD DATA

SECTION VI REACTIVITY DATA

SECTION VII SPILL OR LEAK PROCEDURES

SECTION VIII SPECIAL PROTECTION INFORMATION

SECTION IX SPECIAL PRECAUTIONS

The Occupational Safety and Health Administration's Material Safety Data Sheet (MSDS) is at present the one uniform method used throughout the United States to document chemical information.

ignore all hazard warnings. Some chemicals have many synonyms, and if nomenclature differs among the states, the worker may not realize what chemicals are being regulated.

Companies shipping chemicals in interstate commerce could face a bewildering array of information requirements, and the right-to-know paperwork that must accompany shipments may be so large and so complex that it will be virtually useless to the worker. A drum or package could contain 50 hazard warning labels, all in a different format and all with different and possibly conflicting information.

States with information requirements that differ greatly from federal requirements may put themselves in jeopardy of violating the Interstate Commerce Clause of the U.S. Constitution, which prohibits undue restraint of trade. Court challenges could come from manufacturers or states who believe right-to-know restrictions are severe enough to prevent shipment of some products into a state.

Enforcement Costs

Nor can any responsible state legislature consider right-to-know legislation without recognizing the costs of implementing and enforcing such legislation. Some sort of bureaucracy will have to be established to write the required regulations and to enforce them once they are in place. Unless such rules are carefully tailored, the amount of right-to-know paperwork could be staggering. Actions taken under a right-to-know law—such as responding to worker or public questions or complaints—must be taken quickly. Lack of sufficient state resources is not an excuse that will satisfy either workers or the public.

Finding the necessary resources will not be easy for most states, however, since most states do not have existing bureaucracies to administer or enforce right-to-know laws. The management of any law that attempts to deal with many technologies, thousands of chemical substances, thousands of workplaces, and millions of people imposes a significant administrative burden. Since many materials originate outside the state, where a different set of regulations will be in effect, the problem is compounded for state regulators. If the state finances the program from its general funds, there may not be enough available, given today's climate of opposition to deficit spending and increasingly tight state budgets. The cost of adding a new state agency or expanding an existing one will not be welcomed by many taxpayers, and tax increases to support a right-to-know program will be difficult to approve.

Equitable Taxation

Finding a way to tax industry equitably for right-to-know program expenses—without a tax that is discriminatory against smaller companies—may be impossible. Such a program will affect different industries—and different companies—unevenly. Yet no logical criteria for establishing an uneven tax on industry seem to exist, even if such a system could be legally defended. A tax on industry in a state with right-to-know legislation would put industry in that state at a competitive disadvantage vis-a-vis similar industries in states without such requirements. In that situation, the incentive for industrial relocation out of a right-to-know state would be doubled: because of the law itself, and because of the burden of financing the law.

Questions of how to support the costs of a right-to-know program are largely moot, in the last analysis. Ultimately, it is the public that pays for such programs, directly through taxation or indirectly through higher costs of goods and services. Now that a federal standard is finally in place, it is difficult to see how any state can defend to its taxpayers an additional or duplicative state program.

The Public Interest

Although most states may decide that a worker right-to-know law is unnecessary, the question of the need for a *public* right-to-know law remains. Few states that have passed public right-to-know laws have actually implemented them. Where they have been implemented, public requests for information have been sparse, and when such requests have been made, they often have come from business competitors. It is difficult to justify the high costs—on both government and industry—of public right-to-know laws on the basis of public or competitor curiosity, particularly when the public has shown so little interest.

Public Agencies. A case can be made for providing information to public agencies that have to respond to industrial accidents. Fire departments, hospitals, police, and other services may be called on to handle emergency situations involving chemicals at sites where they are manufactured, used, or stored. Prior knowledge of the proper ways to treat these chemicals clearly could be a great advantage to these agencies.

There is no need, however, to provide agencies with more information than they need to respond to emergencies. Given all information about all chemicals, most agencies would find the resulting paperwork to be beyond their limited resources. Emergency agencies need *usable* information.

At many plant sites, information already is shared between industry and local emergency services. Periodic exercises are held at plants simulating emergency conditions, to ensure that personnel are adequately trained as well as informed. These programs have been quite successful, even though they usually are not required by law.

In discussing public right-to-know laws, it is necessary to define exactly what is meant by "public." As has been noted, the public has access to a lot of information about chemical substances made and used in the United States. Most citizens are not exposed to the chemicals present within a manufacturing facility unless these chemicals are emitted beyond its boundaries. If this happens, then a wide variety of federal and state air, water, and hazardous waste laws require public information or notification.

Simply knowing what chemicals may be present within a workplace does not add to public safety or environmental well-being. Knowing how to prepare for and deal with hazardous situations does, however, and any public right-to-know law should have this as its basic objective if it is truly to contribute to the public good.

What Materials Should Be Covered?

If the intent of a right-to-know law is to inform individuals about the potential hazards of chemical substances, then it seems logical that only substances that are truly hazardous under the conditions in which they are used should be covered by the law. Some proponents of right-to-know legislation believe all chemical substances ought to be included, regardless of hazard. They suggest, for example, that the more than 50,000 substances on the National Institute of Occupational Safety and Health "Registry of Toxic Effects of Chemical Substances" (RTECS) list should be used. Opponents of this idea point out that chemicals on the list are included only because they have been subjected to some form of laboratory or animal testing, and inclusion does not necessarily mean that the listed material is toxic or harmful. Other lists, particularly the OSHA "Subpart Z" list, address themselves specifically to chemicals that have proven to be hazardous in certain conditions; such targeted lists are far more precise than the "laundry list" approach that includes materials regardless of the degree or potential for hazard or exposure. For carcinogens, two generally accepted guidelines are the latest listings from the International Agency for Research on Cancer (IARC) or the National Toxicology Program (NTP).

Chemical State. Another important criterion—often overlooked—is the material's state. Some chemicals are hazardous when in the gaseous state because they should not be inhaled. However, they present no risk as solids and therefore do not belong in a plant's right-to-know program. Any proposed law on this subject, then, should recognize the potential for exposure; if such a potential does not exist because of the physical properties of the material, or for other reasons, then it should not needlessly be subjected to right-to-know provisions.

Duplicative Regulation. Other exemptions should be made for materials that already are subject to adequate disclosure regulations. These include registered pesticides, drugs, consumer products, and materials in transit which are governed by U.S. Department of Transportation regulations.

In addition, right-to-know laws should be flexible enough to allow the addition of new materials as new hazards become known, or the removal of substances where suspected hazards are not proven. In any event, broad, indiscriminate lists should be avoided because they are unnecessarily expensive and virtually impossible to enforce.

What Should Be Disclosed?

The kind and amount of information disclosed about any potentially hazardous substance should depend on the material itself and the person to whom it is being released. For example, a health professional in a hospital emergency room treating an injured worker has far different information needs from those of a layman with only a passing curiosity about chemicals. Is there a system for providing sufficient information to everyone who wants a role in the right-to-know process?

The current, uniform method used throughout the United States to document chemical information is the Material Safety Data Sheet (MSDS). It is at the heart of the new federal standard adopted recently by OSHA. This document requires the listing of hazardous ingredients, physical data, fire and explosion hazards, health hazards, reactivity, spill or leak procedures, protective information, special precautions, waste disposal methods, and corrective first aid procedures. Acute and chronic health hazards are both described.

Under current OSHA standards, provisions are made for keeping some information confidential at a company's request, as well as for disclosing this confidential information, under appropriate safeguards, to those with a legitimate need to know. The information on the MSDS is comprehensive, and any state system would be well-advised to adopt it entirely, or closely copy it. This at least will keep a degree of consistency among federal and state requirements.

Chemical Identity

A major question that occurs over and over in any discussion of the right-to-know issue is this: Must the manufacturer or user always disclose the exact chemical identity of a substance? Many proponents of right-to-know laws think so; otherwise, they claim, there will not be sufficient disclosure. Sheldon Samuels of the AFL-CIO put it this way: "Nothing is more important than the name of the chemical. . . . We don't want the industry's interpretation of what the chemical does or what the chemical might be. . . . We don't care as much about being warned of its effects because we have access to [that information]. . . . We want the name of the chemical; we have that right. . . ."

Opponents of this position point out that it is the *hazard* of the material—not its detailed chemical identity or composition—that should be of most concern in any right-to-know system; as long as a trademark or other name is used accurately to identify the substance, that should be sufficient. Industry's position is that the proper handling of hazardous chemicals, to achieve environmental and health protection, does not necessarily depend on a detailed knowledge of chemical identity. As long as the hazards are linked to a material by a common identity, they can be avoided or corrected.

In most cases, the chemical identity will be known anyway. Only when confidential information—called "intellectual property"—is at stake does the question of disclosing chemical identity come into play, and these instances are relatively rare. The confidentiality of business information protects the jobs of millions of workers, and is particularly important in international trade where foreign laws may not provide adequate patent protection. That confidentiality should not be violated without good reason.

In emergency situations, industry does not object to the disclosure of confidential information to physicians or others involved with the protection of life, health, property, or environmental well-being. But to endanger the livelihood of individual companies—and perhaps even entire U.S. industries and the jobs they provide—without providing a benefit that would offset this kind of result is clearly an inappropriate use of legislative authority.

Spreading The Word

Once it is determined what materials should be involved, and what should be disclosed about them, what mechanism then should be used to get this information to the worker or the public? Among the choices: the Material Safety Data Sheet, already described; labels or placards on various kinds of workplace containers or in specific workplace areas; lists of materials posted in the workplace; brochures that describe hazards and ways to avoid them (particularly useful for workers who move frequently between work areas); and training programs tailored specifically to chemicals to which individual workers may be exposed. All these are currently used—in various combinations—by industry. All of them also are called for—again in various combinations—by the new OSHA standard and by many existing state right-to-know laws.

Principals in the Right-to-Know Debate

Each of the parties to the right-to-know debate has a specific viewpoint—often tenaciously held. The only consensus is that workers have the right to know how to protect themselves against hazards in the workplace. And there are differences on how to achieve even this goal.

Nevertheless, general conclusions about right-to-know policy can be reached by analyzing the positions of the principal involved parties:

Labor. Organizations representing workers—and many individual employees as well—believe that knowledge of the materials workers come into contact with is important to worker safety and health. They want enough information to prevent both accidents and illness, as well as to deal with emergency situations when they occur. They believe full disclosure of chemical identity is necessary to achieve this, and feel people should be allowed to stop working with a substance if they are given insufficient information about it. How and where information will be provided, and who should have access to information, are additional worker concerns.

Public. While the general public does not seem enthusiastic about the subject, environmental activist organizations—who see themselves as representatives of the public—have shown great interest. Some people believe they should know everything possible about any substances that might prove a hazard under some known or unknown condition. Others, who live in close proximity to manufacturing facilities, may see the need for more specific information. Whatever the reason, some segments of the public perceive a threat to health or environmental well-being from chemicals and believe that information about these materials will protect people.

Government. Legislators feel a responsibility to respond to the needs of their constituents and to make certain that government is acting in the best interests of the people. Legislators find it difficult to explain that the absence rather than the creation of a new law may be the best option. Fire departments, police, and emergency health services perceive the need for enough information to be able to handle emergency situations. Regulatory agencies need enough data to be able to carry out their mandates of health and environmental protection, regulation, and enforcement. On the other hand, many of these agencies also have a legal obligation to protect the secrecy of legitimately confidential business information.

Industry. Chief among industry concerns is the need to protect the confidentiality of sensitive manufacturing processes and business information. Many chemical processes cannot be patented, and the success of a company that makes or uses chemicals may depend on its ability to keep process details secret. Industry has not objected to making these details known—under appropriate safeguards—to those with a legitimate need to know, such as health professionals or government agencies, but it looks askance at broad right-to-know provisions that permit widespread or indiscriminate disclosure of confidential information.

Other industry concerns include the costs of right-to-know programs, and the disruption of existing programs that have proved effective. To meet these two concerns, industry has sought flexibility in new, mandated programs to allow cost-effective approaches that do not require abandonment of present programs.

Industry generally has not opposed the basic right of workers to know potential workplace hazards. However, the chemical industry—the principal affected industry—points to the fact that for the past two years the National Safety Council has named the chemical industry the safest of all industries based on death rates and work days missed. This, according to the industry, indicates that present programs are effective. Industry also notes that increased worker health and safety is a major factor in increased productivity and profitability, and that failure to protect worker health results in higher medical program costs, higher insurance premiums, higher workmen's compensation costs, and higher manufacturing costs generally. Thus, the incentives for a safe and healthy workplace—regardless of the existence of right-to-know laws—are high.

Obviously, no worker or public right-to-know law can satisfy everyone who has opinions on this subject. This is most evident in the basic question of whether a right-to-know law is needed at all, or the related question of whether separate state rules are required now that OSHA has issued a rule that covers the entire country. There are other specific questions that occur whenever a right-to-know law is discussed, and these are outlined in the accompanying article.

Innovative Systems

It is difficult to say any one system is best, because there is so much variety among workplaces. As long as the basic objective is demonstrably achieved, the exact method used should not be particularly important. The legislative and regulatory objective should be performance-oriented—that is, it should define the goal to be achieved and require employers to demonstrate that they are achieving it. But laws or regulations that define not only the goal but the method do not allow companies to use new, imaginative, or more cost-effective systems. One way to avoid this is to use legislative language that clearly states the performance that must be achieved by a regulated company, and then states the acceptable methods which may be used, individually or in combination, to meet this standard.

It is also constructive to provide for the use of new systems that may not be known or available today but may become feasible tomorrow (automatically triggered electronic data or television displays in individual workplaces, for example). Whatever system is used, it should be continually updated to take account of changes as they occur.

Producer Responsibility

Responsibility for preparing information, whether in the form of MSDSs, labels, or other communication devices, should rest with the manufacturer of the material. The manufacturer should be required to provide this information to all companies to which they provide a material, or to all companies who request it (in addition to providing it to the manufacturer's own employees, of course). Other companies subsequently using the material should be sent the manufacturer's MSDS, and these companies would have the responsibility of requesting the information if it is not automatically sent. This system provides for the orderly communication of hazard information within industry and heightens the awareness of using companies, since they have the responsibility of asking for the required information and then disseminating it to their workers.

Having only the original manufacturer prepare the basic required information ensures uniformity as this information is passed through the manufacturing chain from company to company. Each employer in the chain could use whatever communication system works best for its workplaces, provided the overall performance standards and limitations set by the legislation or subsequent regulations are achieved.

Legislators can find themselves unnecessarily bogged down in the "how to" details of right-to-know laws, when they really should be concerned with defining and meeting overall objectives. A legislature should provide direction to regulatory agencies, but not so specifically that regulatory flexibility is discouraged.

Added Costs

Any right-to-know law, of course, will add considerably to the cost of existing state regulatory programs. Inspection of workplaces is a day-to-day routine for designated regulatory agencies in virtually all states, and right-to-know requirements would be but another element of such inspections. The size of the new bureaucracy created to deal with right-to-know matters would depend on the scope and complexity of the right-to-know law adopted by the state. Certainly, additional personnel would be required, record-keeping would increase, and administrative costs would grow.

One way to help control bureaucratic paperwork for a state right-to-know law is for companies to submit to regulatory agencies only the information that is requested by the agencies. Simply submitting all information to agencies serves no other purpose other than to fill filing cabinets. Information about all known chemical substances is available from a variety of sources, as noted; before any new chemical substance can be manufactured, enough information must be submitted to the federal government to gain approval under the provisions of one or more existing laws.

Control of Substances. There are a host of other federal and state laws and regulations that allow the control of hazardous substances—in the workplace or in the general environment. It is important to realize that right-to-know laws do not control these substances; rather, they provide information so that those receiving the information—workers, government, emergency services, employers, and others—can better protect themselves or others in situations where unwarranted or unusual exposure occurs.

Other Issues

In addition to general right-to-know issues, specific concerns have arisen in some states and at the federal level when this kind of legislation is discussed. Here are some of them:

Refusal to Work

Some right-to-know proposals have included provisions requiring employers to respond to worker requests for information within a specified time. During that time (usually two to five days) an employee was given the right to refuse to work with the involved chemical substance—while still being paid—until his or her demands were satisfied. There are some obvious problems with this approach, however.

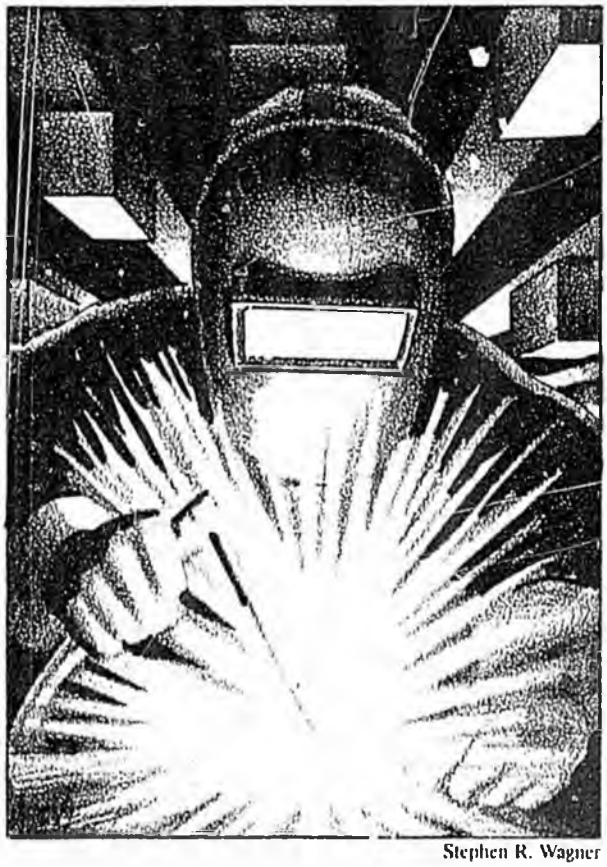
Provisions allowing unilateral refusal to work could shut down companies for indefinite periods of time. On the other hand, the absence of any system for employees to ensure that their right-to-know program is working effectively can lead to abuses of the system and unjustified harassment of employees.

It is a problem that invites compromise. For example, a refusal-to-work request could be granted, for a specified period of time and without pay, until the right-to-know question is resolved. If after that time the complaint proved to be justified, the worker would be paid for the days he did not work. Or, an employee could be assigned to an alternate work area, with any reduction in pay being restored if the question were resolved in his favor. If the complaint proves unjustified, the worker would not be paid or reimbursed. In either case, an employer should be prohibited from taking any action against a complaining employee for the first complaint; if unjustified complaints were repeated, then action could be taken by an employer within the constraints of existing collective bargaining agreements.

Although refusal to work is sometimes treated as a unique and new problem, such actions are not uncommon in plants handling hazardous materials and have become part of the union-management negotiation process. What some right-to-know proponents want is to abandon the traditional systems for resolving disputes, and the substitution of a system that places the entire burden of proof on the employer. Such a system ignores the democratic, legal tradition of challenge, proof, and compromise.

Exposure

It should be noted that "exposure"—discussed earlier—is not synonymous with "handling and use." Proper handling and use of chemicals does not result in unsafe exposure to chemicals. Some right-to-know proposals, however, define exposure in terms of employees who handle or use substances, and this overly broad definition could encompass employees in negligible risk situations.



Stephen R. Wagner

Although it seems obvious, right-to-know laws should specify that there be some causal relationship between a request for information and the chemical substance involved. Arbitrary, peremptory demands for information about substances which are not present and cannot reasonably be anticipated will only use up time that should be used to ensure that the right-to-know program is working effectively.

Training

Training programs are an integral part of any workplace right-to-know program. Although details will vary significantly according to workplace, typical elements of training programs will include safe use guidelines, proper handling procedures, emergency plans and procedures, the availability of information, and details about materials present in a specific area.

The object of any right-to-know *law* should be to see that an adequate training program is called for; the law itself should not become bogged down in extensive training requirements that may not be appropriate for all workplaces. As with other elements of right-to-know legislation, training objectives should be performance-oriented, providing a standard to be met. Good training programs are the single most effective way to inform workers about potential hazards from chemicals used in the workplace.

Transportation

Attempts have been made to introduce transportation issues into right-to-know laws, but this seems inappropriate. Right-to-know laws should inform, not control. There are existing laws, which have been in effect for a long while, to control the transportation of hazardous materials. Transportation accidents are highly publicized and occasionally spectacular, but they seldom happen. The incident rate for shipments of hazardous materials is considerably below that of nonhazardous shipments.

That is because the transportation of hazardous materials is one of the most highly regulated industrial activities. Both the U.S. Department of Transportation and state transportation and environmental agencies regulate such shipments. To add this complex issue to a right-to-know law will only cloud the basic purpose of such a law.

Summing Up

Legislators owe it to themselves and their constituents to find out as much as they can about right-to-know issues before considering legislation to control the complex right-to-know issue, which is one the states have just begun to ponder. All constituencies should be consulted, from the public to industry. All viewpoints have some legitimacy, and many varying opinions must be weighed, balanced, and accommodated or rejected.

It is important to keep in mind the basic purpose of a right-to-know law, which is information, not control. Attempts to broaden right-to-know laws into all-purpose environmental legislation should be rejected.

Finally, a thorough understanding of existing federal laws and regulations—those delineated in this article—is necessary to weigh the need for state legislation in this area. Right-to-know laws, while they may be beneficial, are also burdensome to all constituencies—to government, to industry, and to the public. As in any legislative area, the benefits must be carefully weighed against these burdens.

Regardless of what an individual legislator decides, his decision is a difficult one because of the divergence among important groups on the right-to-know issue. Some guidance from Mark Twain may be useful in this regard: "Always do right. This will gratify some people, and astonish the rest." ■

SB 79

Final Regs.

15.0101 Hazard Communication.

(a) Purpose. The purpose of this section is to ensure that the hazards of all toxic or hazardous substances produced or imported by chemical manufacturers or importers are evaluated, and that information concerning their hazards is transmitted to affected employers and employees in Alaska. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.

This occupational safety and health standard is intended to address comprehensively the issue of evaluating and communicating chemical hazards to employees in Alaska.

(b) Scope and application.

(1) This section requires chemical manufacturers or importers to assess the hazards of chemicals which they produce or import, and all employers in Alaska to provide information to their employees about the toxic or hazardous substances to which they are exposed, by means of a hazard communication program, labels and other forms of warning, material safety data sheets, and information and training. In addition, this section requires distributors to transmit the required information to Alaskan employers.

(2) This section applies to any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

(3) This section applies to laboratories only as follows:

(A) Labels on incoming containers of hazardous chemicals are not to be removed or defaced;

(B) Any material safety data sheets that are received with incoming shipments of hazardous chemicals shall be maintained and they shall be readily accessible to laboratory employees; and

(C) Laboratory employees shall be apprised of and trained to recognize, the hazards of the chemicals in their workplaces in accordance with (i) of this section

(D) Laboratories shall follow the posting requirements outlined in (h) of this section.

(4) This section does not require labeling of the following chemicals:

(A) Any pesticide as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. §136 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency;

(B) Any food, food additive, color additive, drug, or cosmetic, including materials intended for use as ingredients in such products (e.g., flavors and fragrances), as such terms are defined in the Federal Food,

Drug, and Cosmetic Act (21 U.S.C. §301 et seq.) and regulations issued under that Act, when they are subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Food and Drug Administration;

(C) Any distilled spirits (beverage alcohols), wine, or malt beverage intended for nonindustrial use, as such terms are defined in the Federal Alcohol Administration Act (27 U.S.C. §201 et seq.) and regulations issued under that Act, when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Bureau of Alcohol, Tobacco, and Firearms; and

(D) Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act (15 U.S.C. §2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. §1261 et seq.) respectively, when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission.

(5) This section does not apply to:

(A) Any hazardous waste as such term is defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. §6901 et seq.), when subject to regulations issued under that Act by the Environmental Protection Agency;

(B) Tobacco or tobacco products;

(C) Articles; and

(D) Foods, drugs, or cosmetics intended for personal consumption by employees while in the workplace.

(c) Definitions.

(1) "Article" means a manufactured item

(A) which is formed to a specific shape or design during manufacture,

(B) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and

(C) which does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use.

(2) "Chemical" means any element, chemical compound or mixture of elements and/or compounds.

(3) "Chemical manufacturer" means an employer in Standard Industrial Classification codes 20 through 39 with a workplace where chemical(s) are produced for use or distribution.

(4) "Chemical name" means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

(5) "Combustible liquid" means any liquid having a flashpoint at or above 100°F (37.8°C), but below 200°F (93.3°C), except any mixture having components with flashpoints of 200°F (93.3°C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

(6) "Commissioner" means the Commissioner of Labor, or designee.

(7) "Common name" means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

(8) "Compressed gas" means:

(A) A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or

(B) A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C); or

(C) A liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C) as determined by ASTM D-323-72.

(9) "Container" means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems are not considered to be containers.

(10) "Department" means the Alaska Department of Labor.

(11) "Designated representative" means any individual or organization to whom an employee gives written authorization to exercise such employee's rights under this section. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

(12) "Director" means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

(13) "Distributor" means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

(14) "Employee" means a worker employed by an employer in a workplace but not in a place used primarly as a personal residence.

> Note: For the purposes of this section "employee" also means a worker who may be exposed to hazardous chemicals under normal operating conditions or foreseeable emergencies, including, but not limited to production workers, line supervisors, and repair or maintenance personnel.

(15) "Employer" means a person engaged in a business where chemicals are either used, or are produced for use or distribution. Excluded are

persons who have one or more employees working in a place used primarily as a personal residence.

(16) "Explosive" means a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

(17) "Exposure" or "exposed" means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin or eye contact or absorption, etc.), and includes potential (e.g. accidental or possible) exposure.

(18) "Flammable" means a chemical that falls into one of the following categories:

(A) "Aerosol, flammable" means an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;

(B) "Gas, flammable" means:

(i) A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less; or

(ii) A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit;

(C) "Liquid, flammable" means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99 percent or more of the total volume of the mixture.

(D) "Solid, flammable" means a solid, other than a blasting agent or explosive as defined in 09.120(a)(6) that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

(19) "Flashpoint" means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested as follows:

(A) Tagliabue Closed Tester (see American National Standard Method of Test for Flash Point by Tag Closed Tester, Z11.24-1979 [ASTM D 56-79]) for liquids with a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not have a tendency to form a surface film under test; or

(B) Pensky-Martens Closed Tester (see American National Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, Z11.7-1979 [ASTM D 93-79]) for liquids with a viscosity equal to or greater than 45 SUS at 100°F (37.8°C),

or that contain suspended solids, or that have a tendency to form a surface film under test; or

(C) Setaflash Closed Tester (see American National Standard Method of Test for Flash Point by Setaflash Closed Tester [ASTM D 3278-78]). Organic peroxides, which undergo autoaccelerating thermal decomposition, are excluded from any of the flashpoint determination methods specified above.

(20) "Foreseeable emergency" means any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

(21) "Hazard warning" means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the hazards of the chemical(s) in the container(s).

(22) "Hazardous chemical" means any chemical which is a physical hazard or a health hazard.

(23) "Health hazard" means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hematopoietic, hephrotoxins, neurotoxins, agents which act on the hematopietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

Appendix A provides further definitions and explanations of the scope of health hazards covered by this section, and Appendix B describes the criteria to be used to determine whether or not a chemical is to be considered hazardous for purposes of this standard.

(24) "Identity" means any chemical and common name which is indicated on the material safety data sheet (MSDS) for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label and the MSDS.

(25) "Immediate use" means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

(26) "Importer" means the first business with employees within the Customs Territory of the United States which receives hazardous chemicals produced in other countries for the purpose of supplying them to distributors or manufacturing purchasers within the United States.

(27) "Label" means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

(28) "Laboratory" means a workplace primarily used for scientific experimentation or research or for preparing chemicals, drugs, etc.

(29) "Material safety data sheet (MSDS)" means written or printed material concerning a hazardous chemical which is prepared in accordance with (g) of this section.

(30) "Mixture" means any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

(31) "Organic peroxide" means an organic compound that contains the bivalent -0-0 structure and which may be considered to be a structural or derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical.

(32) "Oxidizer" means a chemical other than a blasting agent or explosive as defined in 09.120(a)(6), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

(33) "Physical hazard" means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

(34) "Produce" means to manufacture, process, formulate, or repackage.

(35) "Purchaser" means an employer who purchases a toxic or hazardous substance for use within the workplace.

(36) "Pyrophoric" means a chemical that will ignite spontaneously in air at a temperature of 130°F (54.4°C) or below.

(37) "Responsible party" means someone who can provide additional information on the toxic or

hazardous substance and appropriate emergency procedures, if necessary.

(38) "Specific chemical identity" means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

(39) "Toxic or hazardous substance" means

(A) a chemical listed in section 4, Article 1-4, Alaska Occupational Safety and Health standards.

(B) a chemical listed in "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment", American Conference of Governmental Industrial Hygienists (Latest Edition);

(C) a substance for which a Material Safety Data Sheet is required under OSH regulations; and

(D) a substance determined by the department, in accordance with the Administrative Procedure Act (AS 44.62), to be a health hazard to an employee who is exposed to the substance, including a carcinogen, reproductive toxin, irritant, corrosive, sensitizer, hepatotoxin, nephtrotoxin, neurotoxin, agent that acts on the hematopoietic system, agent that damages the lungs, a cutaneous hazard and an eye hazard.

(40) "Trade secret" means any confidential formula, pattern, process, device, information or compilation of information (including chemical name or other unique chemical identifier) that

is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

(41) "Unstable (reactive)" means a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, pressure or temperature.

(42) "Use" means to package, handle, react, or transfer.

(43) "Water-reactive" means a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

(44) "Work area" means a room or defined space in a workplace in or outside of a building where toxic or hazardous substances are produced or used, and where employees are present.

(45) "Workplace" means an establishment at one geographical location containing one or more work areas.

(d) Hazard determination.

(1) Chemical manufacturers and importers shall evaluate chemicals produced in their workplaces or imported by them to determine if they are hazardous. Employers are not required to evaluate chemicals unless they choose not to rely on the evaluation performed by the chemical manufacturer or importer for the chemical to satisfy this requirement.

(2) Chemical manufacturers, importers, or employers evaluating chemicals shall identify and consider the available scientific evidence concerning such hazards. For health hazards, evidence which is statistically significant and which is based on at least one positive study conducted in accordance with established scientific principles is considered to be sufficient to establish a hazardous effect if the results of the study meet the definitions of health hazards in this section. Appendix A shall be consulted for the scope of health hazards covered, and Appendix B shall be consulted for the criteria to be followed with respect to the completeness of the evaluation, and the data to be reported.

(3) The chemical manufacturer, importer or employer evaluating chemicals shall treat the following sources as establishing that the chemicals listed in them are hazardous:

(A) Subchapter 4, Occupational Health and Environmental Control Code, Alaska Occupational Safety and Health Standards (This is the State's equivalent of 29 CFR Part 1910, subpart Z), or

(B) Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment. American Conference of Governmental Industrial Hygienists (ACGIH) (latest edition).

The chemical manufacturer, importer, or employer is still responsible for evaluating the hazards associated with the chemicals in these source lists in accordance with the requirements of this standard.

(4) Chemical manufacturers, importer and employers evaluating chemicals shall treat the following sources as establishing that a chemical is a carcinogen or potential carcinogen for hazard communication purposes:

(A) National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition);

(B) International Agency for Research on Cancer (IARC) Monographs (latest edition); or

(C) Section 4, Occupational Health and Environmental Control Code, Alaska Occupational Safety and Health Standards.

Note: The Registry of Toxic Effects of Chemical Substances published by the National Institute for Occupational Safety and Health indicates whether a chemical has been found by NTP or IARC to be a potential carcinogen.

(5) The chemical manufacturer, importer or employer shall determine the hazards of mixtures of chemicals as follows:

(A) If a mixture has been tested as a whole to determine its hazards, the results of such testing shall be used to determine whether the mixture is hazardous;

(B) If a mixture has not been tested as a whole to determine whether the mixture is a health hazard, the mixture shall be assumed to present the same health hazards as do the components which comprise one percent

(by weight or volume) or greater of the mixture, except that the mixture shall be assumed to present a carcinogenic hazard if it contains a component in concentrations of 0.1 percent or greater which is considered to be a carcinogen under paragraph (d)(4) of this section;

(C) If a mixture has not been tested as a whole to determine whether the mixture is a physical hazard, the chemical manufacturer, importer, or employer may use whatever scientifically valid data is available to evaluate the physical hazard potential of the mixture; and,

(D) If the employer has evidence to indicate that a component present in the mixture in concentrations of less than one percent (or in the case of carcinogens, less than 0.1 percent) could be released in concentrations which would exceed an established Alaska Occupational Safety and Health permissible exposure limit or ACGIH Threshold Limit Value, or could present a health hazard to employees in those concentrations, the mixture shall be assumed to present the same hazard.

(6) Chemical manufacturers, importers, or employers evaluating chemicals shall describe in writing the procedures they use to determine the hazards of the chemical they evaluate. The written procedures are to be made available, upon request, to employees, their designated representatives, the Commissioner and the Director. The written description may be incorporated into the written hazard communication program required under (e) of this section.

(e) Hazard communication program

(1) The following information shall be provided upon an employee's request:

(A) A copy, upon request of the employee, of the most recent Material Safety Data Sheet, or equivalent written information for a toxic or hazardous substance to which the employee may be exposed. If the employer does not have the copy or information requested, the employer shall request a copy from the department or the manufacturer of the substance within three state government working days after receiving the request.

(B) If the copy or information requested under (A) of this section is not made available to the employee within 15 calendar days after the request is received, the employer shall take measures to assure that employees are not exposed to the substance to which the copy or information pertains until the copy or information is made available to the employee who made the request. This subsection applies only to substances for which a Material Safety Data Sheet, or equivalent information is required under OSH regulations. This subsection does not alter, deny, or abrogate any right an employee may have under law to refuse to work under hazardous circumstances.

(2) Effective November 25, 1986, a written hazard communication program shall be developed and implemented for workplaces which at least describes how the criteria specified in

(f), (g), and (h) of this section for labels and other forms of warning, material safety data sheets, and employee information and training will be met, and which also includes the following:

(A) A list of the hazardous chemicals known to be present using an identity that referenced on the appropriate material safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas);

(B) The methods the employer will use to inform employees of the hazards of non-routine tasks (for example: the cleaning of reactor vessels), and the hazards associated with chemicals contained in unlabeled pipes in their work areas; and,

(C) The methods the employer will use to inform any contractor employers with employees working in the employer's workplace of the hazardous chemicals their employees may be exposed to while performing their work, and any suggestions for appropriate protective measures.

(3) The employer may rely on an existing hazard communication program to comply with these requirements, provided that it meets the criteria established in section (e).

(4) The written hazard communciation program shall be made available, upon request, to employees, their designated representatives, the Commissioner and the Director, in accordance with the requirements of 8 AAC 61.270(e).

Note: If an employer refuses to provide information required by (e)(1)(B), an employee may file a complaint with the department per Alaska Statutes (AS) 18.60.088. An employee who files a complaint is protected against retribution per AS 18.60.089.

(f) Labels and other forms of warning: The following labeling requirements shall become effective, November 25, 1986.

(1) The chemical manufacturer, importer, or distributor shall ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged or marked with the following information:

(A) Identity of the hazardous chemical(s);

(B) Appropriate hazard warnings; and

(C) Name and address of the chemical manufacturer, importer, or other responsible party.

(2) Chemical manufacturers, importers, or distributors shall ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged, or marked in accordance with this section in a manner which does not conflict with the requirements of the Hazardous Materials Transportation Act (18 U.S.C. §1801 et seq.) and regulations issued under that Act by the U.S. Department of Transportation.

(3) If the hazardous chemical is regulated by the Alaska Occupational Safety and Health Section in a substance-specific health standa , the

chemical manufacturer, importer, distributor or employer shall ensure that the labels or other forms of warning used are in accordance with the requirements of that standard.

(4) Except as provided in paragraphs (5) and (6) of subsection (f), each container of hazardous chemicals in the workplace shall be labeled, tagged, or marked with the following information:

(A) Identity of the hazardous chemical(s) contained therein; and

(B) Appropriate hazard warnings.

(5) Signs, placards, process sheets, batch tickets, operating procedures, or other such written materials may be used in lieu of affixing labels to individual stationary process containers, as long as the alternate method identifies the containers to which it is applicable and conveys the information required by paragraph (4) of this subsection to be on a label. The written materials shall be readily accessible to the employees in their work area throughout each work shift.

(6) Portable containers into which hazardous chemicals are transferred from labeled containers and which are intended only for the immediate use of the employee who performs the transfer need not be labeled.

(7) Existing labels on incoming containers of hazardous chemicals shall not be removed or defaced unless the container is immediately marked with the required information.

(8) Labels or other forms of warning shall be legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. Employers having employees who speak other languages may add the information in their language to the material presented, as long as the information is presented in English as well.

(9) The chemical manufacturer, importer, distributor or employer need not affix new labels to comply with this section if existing labels already convey the required information.

(g) Material safety data sheets.

(1) Chemical manufacturers and importers shall obtain or develop a material safety data sheet for each hazardous chemical they produce or import. Employers shall have a material safety data sheet for each toxic or hazardous substance which they use.

(2) Each material safety data sheet shall be in English and shall contain at least the following information:

(A) The identity used on the label, and, except as provided for in subsection (j) of this section, on trade secrets:

(i) If the hazardous chemical is a single substance, its chemical and common name(s);

(ii) If the hazardous chemical is a mixture which has been tested as a whole to determine its hazards, the chemical and common name(s) of the

ingredients which contribute to these known hazards, and the common name(s) of the mixture itself; or,

(iii) If the hazardous chemical is a mixture which has not been tested as a whole:

a. The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise one percent or greater of the composition, except that chemicals identified as carcinogens under paragraph (d)(4) of this section shall be listed if the concentrations are 0.1 percent or greater; and,

b. The chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture;

1. Physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point);

2. The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity;

3. The health hazards of the hazardous chemical, including signs and symptoms

of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the chemical;

4. The primary route(s) of entry;

5. The Alaska Occupational Safety and Health permissible exposure limit, ACGIH Threshold Limit Value, and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the material safety data sheet, where available;

6. Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (I A R C) Monographs (latest edition), or by an Alaska Occupational Safety and Health standard;

7. Any generally applicable precautions for safe handling and use which are known to the chemical manufacturer, importer or employer preparing the material

safety data sheet, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks;

8. Any generally applicable control measures which are known to the chemical manufacturer, importer or employer preparing the material safety data sheet, such as appropriate engineering controls, work practices , or personal protective equipment;

9. Emergency and first aid procedures;

10. The date of preparation of the safety data sheet or the last change to it; and,

11. The name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party preparing or distributing the material safety data sheet, who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

(3) If no relevant information is found for any given category on the material safety data sheet, the chemical manufacturer, importer or employer preparing the material safety data sheet shall mark it to indicate that no applicable information was found.

(4) Where complex mixtures have similar hazards and contents (i.e. the chemical ingredients are essentially the same, but the specific composition varies from mixture to mixture), the chemical manufacturer, importer or employer may prepare one material safety data sheet to apply to all of these similar mixtures.

(5) The chemical manufacturer, importer or employer preparing the material safety data sheet shall ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If the chemical manufacturer, importer or employer becomes newly aware of any significant information regarding the hazards of a chemical, or ways to protect against the hazards, this new information shall be added to the material safety data sheet within three months. If the chemical is not currently being produced or imported the chemical manufacturer or importer shall add the information to the material safety data sheet before the chemical is introduced into the workplace again.

(6) Chemical manufacturers or importers shall ensure that distributors and purchasers of hazardous chemicals are provided an appropriate material safety data sheet with their initial shipment, and with the first shipment after a material safety data sheet is updated. The chemical manufacturer or importer shall either provide material safety data sheets with the ship-

ped containers or send them to the purchaser prior to or at the time of the shipment. If the material safety data sheet is not provided with the shipment, the purchaser shall obtain one from the chemical manufacturer, importer, distributor or the Department of Labor's Occupational Safety and Health Section as soon as possible.

(7) Distributors shall ensure that material safety data sheets, and updated information, are provided to other distributors and purchasers of hazardous chemicals.

(8) Copies of the required material safety data sheets shall be maintained for each hazardous chemical in the workplace, and they shall be readily accessible during each work shift to employees when they are in their work area(s).

(9) Material safety data sheets may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, the employer shall ensure that in all cases the required information is provided for each hazardous chemical, and is readily accessible during each work shift to employees when they are in their work area(s).

(10) Material safety data sheets shall also be made readily available, upon request, to designated representatives and to the Commissioner, in accordance with the requirements of 8 AAC 61.270.

The Director shall also be given access to material safety data sheets in the same manner.

(h) Posting requirements.

(1) A poster that contains the provisions of AS 18.60.065, .066, and .068 shall be displayed at the worksite. A poster meeting this requirement is available from the Department but an employer may use any poster that meets this requirement.

(2) Material safety data sheets or equivalent information for each toxic or hazardous substance to which an employee may be exposed in the workplace will be posted.

(3) Instead of posting the information required under (h)(2) of this section, an employer may post a list of the chemical name and product name of each toxic or hazardous substance to which an employee may be exposed in the workplace, together with an identification of a location, in or near the workplace and accessible to employees, where an employee may inspect the material safety data sheets.

(i) Employee information and training.

(1) Employees shall be provided the following training before employees perform a new job assignment that may result in the employee being exposed to a toxic or hazardous substance:

(A) The location, properties, and known or suspected acute and chronic health effects of the hazardous or toxic substance to which the employee is exposed in the workplace;

(B) the nature of the operations that could result in exposure to hazardous or

toxic substances, as well as any necessary handling or hygienic practices or precautions; and

(C) The location, purpose, proper use, and limitaitons of personal protective equipment used in the workplace.

Note: The department will help employers, upon request, to develop employee safety education programs to meet the requirements of (i) of this section.

(2) Effective November 25, 1986, employees in industries SIC 20-39, shall be provided with the additional following information and training on hazardous or toxic substances in their work area at the time of their initial assignment, and whenever a new hazard is introduced into their work area.

(A) Information. Employees shall be informed of:

(i) the requirements of this section;

(ii) any operations in their work area where hazardous chemicals are present; and,

(iii) the location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.

(B) Training. Employee training shall include at least:

(i) Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);

(ii) The physical and health hazards of the chemicals in the work area;

(iii) The measures employees can take to protect themselves from these hazards, including specfic procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used;

(iv) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

(j) Trade Secrets.

(1) The chemical manufacturer, importer or employer may withhold the specific chemical identity, including the chemical name and other speci-

fic identification of a hazardous chemical, from the material safety data sheet, provided that:

(A) The claim that the information withheld is a trade secret can be supported;

(B) Information contained in the material safety data sheet concerning the properties and effects of the hazardous chemical is disclosed;

(C) The material safety data sheet indicates that the specific chemical identity is being withheld as a trade secret; and,

(D) The specific chemical identity is made available to health professionals, in accordance with the applicable provisions of this section.

(2) Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a hazardous chemical is necessary for emergency or first-aid treatment the chemical manufacturer, importer, or employer shall immediately disclose the specific chemical identity of a trade secret chemical to that treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The chemical manufacturer, importer or employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (j)(3) and (4) of this section, as soon as circumstances permit.

(3) In non-emergency situations, a chemical manufacturer, importer, or employer shall, upon request, disclose a specific chemical identity,

otherwise permitted to be withheld under paragraph (j)(1) of this section, to a health professional (i.e. physician, industrial hygienist, toxicologist, or epidemiologist) providing medical or other occupational health services to exposed employee(s) if:

(A) The request is in writing;

(B) The request describes with reasonable detail one or more of the following occupational health needs for the information:

(i) To assess the hazards of the chemicals to which employees will be exposed;

(ii) To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;

(iii) To conduct pre-assignment or periodic medical surveillance of exposed employees;

(iv) To provide medical treatment to exposed employees;

(v) To select or assess appropriate personal protective equipment for exposed employees;

(vi) To design or assess engineering controls or other protective measures for exposed employees; and,

(vii) To conduct studies to determine the health effects of exposure.

(C) The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information would not enable the health professional to provide the occupational health services described in paragraph (2) of this subsection:

(i) The properties and effects of the chemical;

(ii) Measures for controlling workers' exposure to the chemical;

(iii) Methods of monitoring and analyzing worker exposure to the chemical; and,

(iv) Methods of diagnosing and treating harmful exposures to the chemical;

(D) The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and,

(E) The health professional, and the employer or contractor of the health professional's services (i.e. downstream employer, labor organization, or individual employer), agree in a written confidentiality agreement that the health professional will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to Alaska Occupational Safety and Health Section as provided in paragraph (6) of this subsection,

except as authorized by the terms of the agreement or by the chemical manufacturer, importer, or employer.

(4) The confidentiality agreement authorized by subparagraph (j)(3)(E) of this section:

(A) May restrict the use of the information to the health purposes indicated in the written statement of need;

(B) May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,

(C) May not include requirements for the posting of a penalty bond.

(5) Nothing in this standard is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.

(6) If the health professional receiving the trade secret information decides that there is a need to disclose it to Alaska Occupational Safety and Health Section, the chemical manufacturer, importer, or employer who provided the information shall be informed by the health professional prior to, or at the same time as, such disclosure.

(7) If the chemical manufacturer, importer, or employer denies a written request for disclosure of a specific chemical identity, the denial must:

(A) Be provided to the health professional within thirty days of the request;

(B) Be in writing;

(C) Include evidence to support the claim that the specific chemical identity is a trade secret;

(D) State the specific reasons why the request is being denied; and,

(E) Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.

(8) The health professional whose request for information is denied under paragraph (j)(7) of this section may refer the request and the written denial of the request to the Alaska Occupational Safety and Health Section for consideration.

(9) When a health professional refers the denial to the Alaska Occupational Safety and Health Section under paragraph (j)(8) of this section, the Alaska Occupational Safety and Health Section shall consider the evidence to determine if:

(A) The chemical manufacturer, importer, or employer has supported the claim that the specific chemical identity is a trade secret;

(B) The health professional has supported the claim that there is a medical or occupational health need for the information; and,

(C) The health professional has demonstrated adequate means to protect the confidentiality.

(10) If the Alaska Occupational Safety and Health Section determines that the specific chemical identity requested under paragraph (j)(3) of this section is not a bona fide trade secret, or that it is a trade secret but the requesting health professional has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means to protect the confidentiality of the information, then the chemical manufacturer, importer, or employer will be subject to citation by the Alaska Occupational Safety and Health Section.

(11) If a chemical manufacturer, importer, or employer demonstrates to the Alaska Occuational Safety and Health Section that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical indentity, the Commissioner may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health services are provided without an undue risk of harm to the chemical manufacturer, importer, or employer.

(12) If, following the issuance of a citation and any protective orders, the chemical manufacturer, importer, or employer continues to withhold the information, the matter is referrable to the Occupational Safety and Health Review Board for enforcement of the citation. In accordance with the Alaska Rules of Civil Procedures,