

1917.25 Fumigants, Pesticides, Insecticides and Hazardous Preservatives

1917.27 Personnel

(a)(2)

1917.43 Powered Industrial Trucks

(c)

(d)

1917.44 General Rules Applicable to Vehicles

(i)

(j)

1917.48 Conveyors

(a)

(f)

(g)

1917.49 Spouts, Chutes, Hoppers, Bins, and Associated Equipment

(a)

(b)

(d)

(f)

(h)

(i)

1917.118 Fixed Ladders

1917.123 Illumination

OSHA Instruction CPL 2-2.38

July 21, 1985

Subject: Inspection Procedures for the Hazard Communication Standard, 29 CFR 1910.1200

A. *Purpose.* This instruction establishes policies and provides clarifications to ensure uniform enforcement of 29 CFR 1910.1200, the Hazard Communication Standard (HCS).

B. *Scope.* This instruction applies OSHA-wide.

C. *References.*

1. The Field Operations Manual (FOM), OSHA Instruction CPL 2.45A, April 15, 1983.

2. Voluntary Training Guidelines, 49 FR 30290, July 27, 1984.

D. *Action.* OSHA Regional Administrators and Area Directors shall ensure that the guidelines presented in this instruction are followed. The Directorate of Field Operations shall provide whatever support is necessary to assist the Regional Administrators and Area Directors to enforce the HCS.

E. *Federal Program Change.* This instruction describes a Federal program change which affects State programs. Each Regional Administrator shall:

1. Ensure that this change is forwarded to each State designee.

2. Explain the technical content of the change to the State designee as requested.

3. Ensure that State designees acknowledged receipt of this Federal program change in writing, within 30 days of notification, to the Regional Administrator. This acknowledgment should include the State's intention to follow the enforcement policies described in this instruction, or a description of the State's alternative policy which is "at least as effective" as the Federal policy.

a. If a State intends to follow the inspection procedures described in this instruction, only a written indication of intent is needed. Where an identical policy is adopted, the Region should review policies, instructions and guidelines issued by the State to determine that this change has been communicated to State program personnel.

b. Any alternative State enforcement policy must be submitted as a State plan supplement within 6 months. An alternative enforcement policy would presumably be necessary in a State with a right-to-know law or a different hazard communication standard, including one whose scope is expanded beyond that of the Federal standard. Any alternative State policy must be submitted with the differences from Federal procedures identified and a comparison and justification made for those differences, to demonstrate that the State plan change is "at least as effective" as the Federal.

4. Utilize routine monitoring activities to determine if this change has been implemented in actual performance.

5. Provide an overall assessment on relative effectiveness of the State plan change and a recommendation for approval/disapproval by the Assistant Secretary.

F. *Background.* The final Hazard Communication Standard (HCS) was published in the Federal Register on November 25, 1983.

1. The HCS incorporates both specification and performance requirements which are result-oriented, providing goals for achievement, and allowing employers the flexibility to develop a program suitable for their particular facility.

2. Compliance Safety and Health Officers (CSHO's) must exercise a high level of professional judgment during compliance inspections. This instruction provides guidelines and evaluation strategies. The standard itself, and the preamble accompanying it, must be relied upon for further guidance.

G. *Phased Implementation.* The HCS is designed to result in a downstream flow of hazard information from the producers of chemicals to industrial users of these products. Since receipt of such information is necessary to implement some parts of the standard, the effective dates allow for a phase-in period for compliance.

1. As of November 25, 1985 chemical manufacturers, importers, and distributors are required to label shipped

containers of hazardous chemicals, and to provide Material Safety Data Sheets (MSDS) to manufacturing purchasers of these chemicals (i.e., employers in Standard Industrial Classification (SIC) Codes 20-39, the manufacturing sector).

2. As of May 25, 1986, all employers in SIC Codes 20-39 must be in compliance with all of the requirements of the standard.

H. *Organization of This Instruction.* Compliance guidelines and policy considerations are addressed within the main part of this instruction. Clarifications, interpretations, review aids and other information are provided in Appendixes A through C. This format will permit easier updating and additions, as enforcement experience provides more information regarding these areas.

1. Appendix A of this instruction provides clarifications of provisions of the standard where significant interpretations are necessary to ensure uniform enforcement and understanding.

2. Appendix B provides a sample letter for inquiries regarding missing or deficient material safety data sheets.

3. Appendix C provides general guidelines for evaluation of hazards.

1. *Inspection Guidelines.* The following are general inspection guidelines:

1. *Phased Enforcement.* Enforcement activity must conform with the implementation schedule described in F.1. (Phased Implementation) of this instruction. For clarity, the standard's requirement may be viewed as prompting two distinct and separable levels of effect.

a. *Suppliers of Hazardous Chemicals.* These employers include importers, chemical manufacturers and distributors. As outlined below, specific responsibilities, relating to shipped or sold hazardous chemicals, commence on November 25, 1985. CSHO's shall begin evaluating visited suppliers on November 25, 1985.

b. *Users of Hazardous Chemicals.* This category includes all employers that are in SIC Codes 20-39. In-house requirements for these employers begin on May 25, 1986.

2. *Suppliers and Users.* The roles of suppliers and users and their respective functions are intertwined. A chemical manufacturer, for example, will have to fulfill its supplier responsibilities as of November 25, 1985. The same employer's remaining in-house responsibilities, relating to the employer's own workplace, begin on May 25, 1986.

a. *Specific Supplier Responsibilities.*

- Perform Hazard Determinations.
- Comply with labeling and MSDS requirements.

b. *Specific User Responsibilities.*

- Perform hazard determination for hazardous chemicals created within and used exclusively on-site.

- Complete MSDS and label chemicals created and used on-site.

3. *Inspection Resources.* Both Safety and Health Compliance Officers shall evaluate employer compliance with the HCS during the course of all programmed inspections at establishments classified within SIC Codes 20-39. Employer compliance shall also be evaluated during unprogrammed inspections, when the need becomes apparent, and with supervisory approval.

a. Both safety and health CSHO's shall evaluate employer compliance with the written program requirements, use of labels, availability of MSDS and appropriate training.

b. In order to support efforts to establish an OSHA computerized MSDS retrieval system, all available MSDS shall be collected on every inspection. Regional Offices shall consolidate, alphabetize by chemical name, and transmit MSDS's to the Office of Health Compliance Assistance, Directorate of Field Operations, during the first week of each month.

[Editor's note: Instructions in this paragraph were cancelled by John B. Miles Jr., director of field operations for OSHA, in an Aug. 14 memorandum to the agency's regional administrators. The change will be reflected in a future revision to CPL 2-2.38.]

c. Where necessary, a representative sample of the MSDS are to be selected from those gathered for further evaluation at the Area Office. (See I.8.c. of this instruction.) If this review reveals deficiencies in the MSDS health hazard information, further review of the employer's written health hazard evaluation procedures may be required before issuing appropriate citations.

4. *Citation Guidelines.*

a. Citations for violations of 29 CFR 1910.1200 (e)(1), (f)(1), (g)(1) and (h) shall be issued when there is a complete lack of hazard communication program.

b. General guidance concerning appropriate paragraphs for citation purposes are provided throughout this instruction.

5. *29 CFR 1910.1200(d), Hazard Determination.*

a. CSHO's shall determine the adequacy of a company's hazard determination program primarily by assessing the outcome of that determination; i.e., the accuracy and adequacy of the information on labels and material safety data sheets. The written hazard evaluation procedures are to generally describe the process followed — they do not have to address each chemical evaluated. Although not required, many companies will keep records of individual chemical evaluations. In the event of a finding by the CSHO of an inaccurate determination, as indicated by inaccurate information on the MSDS or label, these records may be useful in

identifying where the company's evaluation differed from OSHA's and for documentation of appropriate violations.

b. In general, the hazard evaluation procedures should address the following:

(1) The person(s) responsible for evaluating the chemical(s).

(2) The sources of information to be consulted. Evaluators should have access to a wide range of sources. While well-known chemicals could be adequately evaluated by consulting established reference texts, others will require searches of bibliographic data bases.

(3) Criteria to be used to evaluate the studies, including those parameters addressed by the HCS (i.e., statistical significance; conducted according to scientific principles).

(4) A plan for reviewing information to update the MSDS if new and significant health information is found.

c. *Citations.* Citations for violations of 29 CFR 1910.1200(d)(1) shall be issued when the employer has failed to perform a hazard determination(s). Paragraph (d)(2) of the standard shall be used, and specific deficiencies noted, when deficiencies exist.

6. 29 CFR 1910.1200(e), *Written Hazard Communication Program.* CSHO's shall review the employer's written hazard communication program to determine if all applicable requirements of this paragraph have been addressed. The review of the written program shall be done first, prior to ascertaining whether the elements of the program have been implemented in the workplace. The length and complexity of the written program will vary from site to site. The CSHO shall determine that the employer has addressed the issues in sufficient detail to ensure that a comprehensive approach to hazard communication has been developed. If no program exists, the employer shall be cited under 29 CFR 1910.1200(e)(1). An effective program need not include all of the elements listed below. They are provided to serve as an evaluation tool. The primary considerations should be whether the program adequately addresses the issues, and whether employees are permitted ready access to required information. In general, the written program should include consideration of the following elements:

a. *Labels and other Forms of Warning.*

(1) Designation of person(s) responsible for ensuring labeling of in-plant containers.

(2) Designation of person(s) responsible for ensuring labeling on shipped containers.

(3) Description of labeling system(s) used.

(4) Description of written alternatives to labeling of in-plant containers, if used.

(5) Procedures to review and update label information when necessary.

b. *Material Safety Data Sheets.*

(1) Designation of person(s) responsible for obtaining/maintaining the MSDS.

(2) How such sheets are to be maintained (e.g., in notebooks in the work area(s)), and how employees can obtain access to them.

(3) Procedure to follow when the MSDS is not received at time of first shipment

(4) Procedure for updating the MSDS when new and significant health information is found.

(5) Description of alternatives to actual data sheets in the workplace, if used.

c. *Training.*

(1) Designation of person(s) responsible for conducting training.

(2) Format of the program to be used (audiovisuals, classroom instruction, etc.).

(3) Elements of the training program — compare to the elements required by the HCS. (See 29 CFR 1910.1200(h).)

(4) Procedure to train new employees at the time of their initial assignment to work with a hazardous chemical, and to train employees when a new hazard is introduced into the workplace.

(5) Guidelines on training programs prepared by the Office of Training and Education (49 FR 30290; July 27, 1984), can be used to provide general information on what constitutes a good training program.

d. *List of Hazardous Chemicals.* This is to be an inventory of chemicals for which there must be data sheets. The CSHO shall use this list to help determine which chemicals need to be reviewed in greater detail.

e. *Hazardous of Nonroutine Tasks.* Methods to be used to inform employees of the hazardous of nonroutine tasks (e.g., cleaning out reactor vessels) and the hazards of chemicals in unlabeled pipes.

f. *On-site Contractors.* Methods to inform on-site contractors of hazards their employees may be exposed to while performing their work.

g. *Citations.* 29 CFR 1910.1200(e)(1)(i) shall be cited when no lists are developed or when they are incomplete. Paragraph (e)(1)(ii) of the standard shall be used when a system does not exist to inform employees of the hazards associated with nonroutine work tasks, and with chemicals contained in unlabeled pipes.

7. 29 CFR 1910.1200(f), *Labels and Other Forms of Warning.*

a. Labels or other markings on each container of chemicals must include:

(1) Identity (can be any chemical or common name designation for the individual chemical or mixture, as

long as the term used is also used on the list of hazardous chemicals and the MSDS); and

(2) Appropriate hazard warnings. (See Appendix A for interpretation of this requirement.)

b. Labels on shipped containers must also include the name and address of the chemical manufacturer, importer, or other responsible party.

c. The standard allows considerable flexibility in format and content of labels, as long as the minimal information requirements are met.

d. CSHO's shall determine that containers are labeled, that the labels are legible, and that they are prominently displayed. The accuracy of the label information is to be assessed for a representative number of chemical.

e. Appropriate paragraphs from 29 CFR 1910.1200 (f)(1)(i) through (f)(1)(ii) shall be cited when deficiencies are found relating to products that are shipped downstream. Paragraphs (f)(4)(i) and (f)(4)(ii) of the standard will be cited when a hazardous chemical is created and used only in-house.

8. *29 CFR 1910.1200(g), Material Safety Data Sheets*

a. The CSHO shall evaluate the existing program to the extent necessary to determine that:

(1) MSDS have been obtained or developed for hazardous chemicals in the workplace.

(2) MSDS are maintained in a fashion such that employees have ready access to them during each work shift.

b. The CSHO shall then examine a representative number of the MSDS to identify whether they appear to be completed appropriately.

c. A representative number of the MSDS shall be selected for review in the Area office. If the CSHO is very familiar with the hazards of the substance, the review maybe completed otherwise, the CSHO is to follow the Hazard Evaluation Procedures outlined in Appendix C of this directive without exhaustive research. The CSHO shall select as many as judged necessary to adequately ensure that the program is resulting in the transmittal of accurate information. The sample size and particular sheets selected will depend on a number of factors:

- The number of chemicals in the workplace,
- The severity of the hazards involved,
- The completeness of the data sheets in general, and
- The volume of the chemicals used.

d. Where employers are relying on the MSDS supplied by chemical manufacturers or importers, these procedures shall be followed:

(1) Employers are not to be held responsible for inaccurate information on the MSDS which they have accepted in good faith (i.e., the sheets are completed and not obviously unacceptable). The CSHO shall take copies of the MSDS with inaccurate information back to the Area Office for referral to the appropriate Regional Office for further action.

(2) If no sheets have been received for any hazardous chemicals, employers have a responsibility to contact the chemical manufacturer, importer or distributor to obtain one. If there are missing MSDS, the CSHO shall ascertain what has been done by the employer to obtain them. Such documentation may include letters written to suppliers or logs of telephone requests.

(3) If the employer has not made documented attempts to obtain the MSDS, appropriate citations shall be issued to the employer. Generally, a 30-day abatement period shall be given to allow the employer to obtain the MSDS. CSHO's shall recommend that employers write to both their supplier and the product manufacturer for the MSDS.

(4) If the employer has failed to obtain the MSDS through such documented attempts, the Area Director shall concurrently call and send a certified letter to the supplier or manufacturer to obtain the needed information. (See sample letter in Appendix B.) Area Offices should expect to receive requests from employers to assist them in obtaining MSDS in situations where an inspection has not been conducted. All calls, not relating to an ongoing inspection, shall be documented on a log established for this purpose. If the Area Office determines that the employer has tried to obtain the information, and has not been able to, a letter and telephone call to the supplier or manufacturer is the appropriate action in this situation as well. The Area Office shall document all actions taken in the case file.

(5) If the supplier or manufacturer fails to respond within a reasonable time (e.g., 30 days), a referral (OSHA-90 Form), with completed background information attached to it, is to be sent through the Regional Office to the Regional Office within whose jurisdiction the supplier or manufacturer does business. Where the supplier or manufacturer is in the same Region, the OSHA-90 Form is to be completed and sent through the Regional Office to the appropriate Area Office within that Regional jurisdiction. The Area Office shall deal directly with those suppliers or manufacturers located within their jurisdictions. The Regional Office shall forward a copy of each referral, and/or any citations which results, to the Directorate of Field Operations.

(6) That Regional Office shall then ensure that an abbreviated inspection is conducted (i.e., limited to the

requirements of the HCS), and take appropriate enforcement action. The findings shall be communicated to the referring office. Also, the MSDS obtained shall be sent to the referring office.

(7) The Regional Administrator shall take steps to ensure that referrals to and from State designees are handled in a similar manner.

e. If the Area or Regional Office encounters any difficulty in following this procedure at any point in the process, the Directorate of Field Operations shall be consulted for assistance.

9. *29 CFR 1910.1200(h), Employee Information and Training.*

a. The training requirements of the HCS will generally complement rather than satisfy the existing training requirements contained within other OSHA standards (i.e., expanded health standards, construction requirements, etc. CSHO's shall continue to ensure that employer's obligations under specific training standards are met.

b. A representative number of employees shall be interviewed as part of the assessment of the program by the CSHO. Questions shall include determination of the following:

(1) If they are aware of the HCS and its requirements.

(2) If they have received training.

(3) If they can indicate the location and availability of information required by the HCS (e.g., MSDS).

(4) If they are generally familiar with the hazardous properties of the chemicals in their work area, and with the protective measures being implemented.

c. These interviews will provide general information to the CSHO regarding the training program. Obviously, it cannot be expected that employees will totally recall all information and be able to repeat it. However, if the CSHO detects a trend in employee responses that indicates training is not being conducted, or is conducted in a cursory fashion that does not meet the intent of the standard, a closer review of the written program and its implementation may be necessary. The purpose of the standard is to reduce chemical source illnesses and injuries through behavior modification resulting from acquisition of hazard information. This can only occur if employees receive the information in usable form through appropriate training.

d. Some employers will voluntarily keep records of training sessions. These could be helpful to CSHO's in assessing compliance with the standard.

e. Violations shall be issued under 29 CFR 1910.1200(h) when training is not provided.

10. *Trade Secrets.* [Reserved].

11. *Response to Medical Emergencies.* The HCS permits a treating physician or nurse to designate the

existence of a medical emergency requiring the immediate disclosure of trade secrets (29 CFR 1910.1200(i)(2)). Complaints received from health professionals relating to a medical emergency shall be classified as nonformal in accordance with the Field Operations Manual. Due to the potential risk to life and/or health, the Area Director shall ensure that these complaints are processed as soon as received. These procedures shall be followed:

a. The Area Director (local office) or his/her designee shall contact the manufacturer of the chemical by telephone. Telephone numbers are required on the MSDS. The manufacturer shall be advised of the standard's requirements and directed to immediately provide the needed information directly to the treating physician or nurse.

b. Failure to disclose the information shall result in the issuance of a willful citation. The chemical manufacturer will frequently be located under a different Area Office jurisdiction. Apparent violations shall be referred to the Office of jurisdiction for investigation and the issuance of citations.

c. Concurrently, the Area Director of jurisdiction shall coordinate obtaining an administrative subpoena ordering the immediate disclosure of the needed information. Federal Court Orders shall be sought immediately if the administrative subpoena is not effective in obtaining the information.

12. *Response to Non-Emergency Referrals.* When a health professional providing medical or other occupational health services to exposed employees is denied access to trade secret information, the matter may be referred to OSHA for enforcement proceedings. As stipulated in the standard, OSHA should receive from the referring health professional a copy of the written request for the trade secret information, as well as a copy of the written denial provided by the holder of the trade secret. These two written documents shall be reviewed by the Area Director to determine the validity of the request and the trade secret claim. As stated previously, the Regional Solicitor will provide assistance in this regard. If the Area Director does not believe that there is enough information upon which to base a decision, he/she may contact either the health professional or the trade secret holder for further information. Such requests shall be documented in the case file.

J. *Classification and Grouping of Violations.* The following guidelines shall generally be applied. If deviations appear appropriate, they shall be coordinated with the Directorate of Field Operations, Office of Health Compliance Assistance, through the Regional Office.

1. In accordance with the Field Operations Manual, Chapters IV and V, violations of 29 CFR 1910.1200 shall generally be grouped except as noted in I.10.c.(2)

of this instruction, and classified as "other." However, if the chemical manufacturer/or the importer has failed to evaluate the hazards of the chemicals produced or imported, and has not labeled shipped containers or has not provided the MSDS to the manufacturing purchasers, the CSHO shall determine if a willful violation is appropriate.

2. The CSHO shall also determine if a willful violation can be substantiated when an employer has no hazard communication program at all. As stated previously, a willful citation shall be issued when an employer refuses to provide specific chemical identity information in a medical emergency (29 CFR 1910.1200(i)(2)).

3. Violations of 29 CFR 1910.1200(i)(2) shall not be grouped. All other violations shall be grouped according to the guidelines set forth in the Field Operations Manual, Chapter V, C.

Appendix A

Clarifications and Interpretations of the Hazard Communication Standard (HCS).

The following clarifications and interpretations are keyed to the HCS by paragraph number.

Purpose.

(a)(2) The Agency's position regarding State standards has been described in OSHA Instruction STP 2-1.117, dated August 31, 1984. This should be consulted when answering questions regarding such State standards.

Basically, OSHA's position is that State standards can be enforced only under the auspices of an OSHA-approved State plan. States without State plans are preempted from addressing the issue of Hazard Communication. Community right-to-know standards are outside the jurisdiction of OSHA and are not affected by this position. Preemption is a complicated and controversial issue. It is suggested that inquiries regarding preemption that require in-depth knowledge be referred through the Directorate of Field Operations to the Office of State Programs for response.

Scope and Application.

(b)(1) The HCS has a unique requirement for downstream disclosure of information from chemical manufacturers and importers to manufacturing purchasers of their products. This downstream flow of information is essential to the complete implementation of the standard, but does create enforcement situations that have not been encountered with previous standards. CSHO familiarity with the procedures established in this instruction

to address such situations is essential to the implementation of the HCS.

(b)(2) The phrase "known to be present" is essential to understanding the scope of the standard. No testing or analysis of a mixture has to be done to comply with the standard, but if a hazardous chemical is known to be present (e.g., nitrosamines are a known byproduct of the process), then it is covered by the standard.

(b)(3) The coverage of laboratories in manufacturing facilities is limited under the standard. Although the standard does not specifically define the term laboratory, it is intended to include research facilities, as well as quality control laboratory operations. Laboratories do not have to have a written hazardous communication program. Therefore, when the required training is performed, the part that deals with the program availability will simply point out that such programs are not required for laboratories.

Some manufacturers of chemical specialty products have tried to interpret the laboratory provisions as exempting them from coverage. These operations are considered to be manufacturing processes, and are not exempted. Furthermore, a pilot plant operation is also considered to be a manufacturing operation, not a research laboratory operation.

Samples that are shipped out of manufacturing facility laboratories must be labeled if they are hazardous chemicals. If the samples are shipped to another manufacturer, then a data sheet must be provided as well.

Quality control samples taken in a plant do have to be labeled, tagged, or marked in a simple way, unless the person taking the sample is also going to be performing the analysis, and thus the sample would come under the portable container exemption. The rack in which samples are placed could be labeled in lieu of labeling individual samples, if the contents and hazards are similar.

(b)(4) These labeling exemptions apply to labels required on shipped containers — the chemicals are *not* exempted from coverage by the standard in other respects. In particular, it should be noted that there is no blanket exemption for consumer products under the standard — it only exempts such products from labels on shipped containers. However, a common sense approach should be utilized when such products are used in a manner similar to which they could be used by a consumer, thus resulting in levels of exposure comparable to consumer exposure. For example, it may not be necessary to have a data sheet for a can of cleanser used to clean the sink in an employee restroom. However, if such cleanser is used in large quantities to clean process equipment, it should be addressed in the Hazard Communication Program.

Manufacturers who purchase such products from retail stores which do not have data sheets on file must seek to obtain one from the chemical manufacturer or importer as required under paragraph (g)(6).

(b)(5) Hazardous waste is completely exempted from the standard when subject to EPA regulations. If the waste is not regulated by EPA, then the requirements of the standard apply (i.e., containers of hazardous materials would have to be labeled).

The "article exemption raises many questions. The key to the definition of "article", and thus the exemption, is the term "under normal conditions of use". For example, an item may meet the definition of "article" but produces a hazardous byproduct if burned. If burning is not considered as part of its normal conditions of use, the item would be an "article" under the standard, and thus exempted. The following items are examples of articles:

Stainless steel table
Vinyl upholstery
Tires

The following items are examples of products which would *not* be considered "article" under the standard, and would thus not be exempted from the requirements:

Metal ingots that will be melted under normal conditions of use.

Fabric treated with formaldehyde where downstream garment manufacturing employees will be exposed when making clothing.

Switches with mercury in them when a certain percentage break under normal conditions of use.

It should be noted that the only information that has to be reported in these situations is that which concerns the hazard of the release. The hazardous chemicals which are still bound in the article would still be exempted under the article exemption.

Definitions.

(c) "Container" does include tank trucks and the like.

"Distribution" is not tied to SIC Codes, and most distributors will be classified in industries other than manufacturing. Manufacturers need only provide data sheets to distributors that normally sell to manufacturing purchasers.

"Identity" allows common names to be used on labels for individual components or for the mixture as a whole.

"Mixture" definition does not apply if there is a chemical reaction, and a new product results.

Hazard Determination.

(d)(1) The HCS relies on a downstream flow of information from the producer of a hazard to the user. Although the chemical manufacturer and the importer have the primary duty for evaluation, it is expected that some employers will choose to do their own evaluations. Whoever does the evaluation is responsible for the information.

An employer may become a "chemical manufacturer" if chemicals are produced within a process and employees are potentially exposed to them. An employer in SIC 20-39 is thus required to evaluate the hazards of such chemicals (e.g., welding fumes).

The fact that a chemical cannot be "contained" does not exempt it from the standard. For welding fumes, for example, an employer can have a data programs although there isn't a "container" of welding fumes to label. Where appropriate, work areas could be placarded for such hazards.

(d)(2) See Appendix C of this instruction for further guidance on evaluating health effects. No testing of chemicals to determine hazards is ever required; the evaluation is to be based on currently available information.

(d)(3) Any compound of a substance for which there is a PEL or TLV is considered to be part of the floor of hazardous chemicals covered by the standard.

"Nuisance dust" is part of the floor since it is regulated by 29 CFR 1910.1000 and appears in the TLV list. For purposes of this standard, only the substances listed specifically as nuisance particulates in Appendix D to the TLV list are to be covered by the HCS.

(d)(5) While the HCS does not require testing of chemicals to determine their hazards, some employers are apparently considering testing mixtures as a whole so as not to have to list hazardous ingredients on the MSDS. Should employers choose to pursue this option, a full range of tests would have to be performed, including tests to determine health hazards (acute and chronic) and physical hazards.

(d)(6) Employers, who are not planning to evaluate the hazards of chemicals they purchase, can satisfy the requirement for written hazard evaluation procedures by stating that they intend to rely on the evaluations of the chemical manufacturer/importer.

Downstream employers/employees do not have access to the written procedures maintained by the chemical manufacturer/importer. If there appears to be a problem with the information received, and it cannot be resolved with the supplier of the product, the matter should be referred to OSHA for investigation. OSHA does have access to the written procedures.

Written Hazard Communication Program.

(e)(1) Employers are responsible for protecting their employees from all hazardous chemicals known to be present, including those brought on-site by contractors. To ensure such chemicals are addressed, it is recommended that provisions to obtain information regarding them be included in the employer's contracting arrangements.

Labels and Other Forms of Warning.

(f)(1) Where the shipping container is a tank truck, rail car, or the like, the appropriate label may be provided with the shipping papers rather than posted on the truck, etc., itself. DOT placards are intended to provide protection for those involved in transportation — the OSHA label is intended to protect the employees of the downstream recipient. Providing the label separately will satisfy this concern.

The purpose of the label is to provide an immediate visual warning about the hazard(s) of the chemical in the container. The HCS requires labels to include an "appropriate hazard warning". This is a performance criterion which allows the use of many different, existing labeling systems. Varying approaches can be expected, particularly for in-plant systems.

It will not necessarily be "appropriate" to warn on the label about every hazard listed in the MSDS. The data sheet is to address essentially everything that is known about the chemical — determination of the hazards to be highlighted on the label will involve some assessment of the weight of the evidence regarding each hazard reported on the data sheet. However, this does not mean that only acute hazards are to be covered on the label, or that well-substantiated hazards can be left off the label because they appear on the data sheet.

The "hazard warning" must the hazard of the chemical. This is intended to be specific information regarding the hazard — the specific hazards indicated in the standard's definitions for "physical" and "health" hazards would be appropriate. Phrase such as "caution", "danger", or "harmful if inhaled", generally do not meet the intent of the standard by themselves. The definition of "hazard warning" states that the warning must convey the hazard of the chemical. If, when inhaled, the chemical causes lung damage, then that is the appropriate warning. Lung damage is the hazard, not inhalation. There are some situations where the specific target organ effect is not known. Where this is the case, the more general warning statement would be permitted. For example, if the only information available is an LC50 test result, "harmful if inhaled" may be appropriate.

There are some labeling systems used in the workplace that communicate degree of severity of the hazard by means of a numerical rating system. While these would not be appropriate for labels on containers leaving the plant, since they do not contain full hazard information, they can be used in-plant where labels are supplemented by data sheets and training. An example of this type of system is the HMIS developed by the National Paint and Coatings Association. Since written alternatives to in-plant labels are permitted in any event, it appears that allowing these labels in in-plant systems will satisfy the intent of the standard as long as they are supplemented with the more specific information.

(f)(4) As of May 25, 1986, all containers in the workplace are to be labeled in accordance with the provisions of the standard. The 2 ½-year phase-in period for this requirement should allow turnover of most chemical supplies. The employer is responsible for ensuring that all containers in the plant are labeled by that date.

Material Safety Data Sheets.

(g)(1) Chemical manufacturers/importers who choose to purchase data sheets from information services, rather than developing them, still retain responsibility for provision of the sheets and for their accuracy.

For mixtures, if the employer is assuming the mixture has the same hazard as its hazardous components (i.e., no test data on the mixture as a whole), the data sheets for the components will satisfy the requirements of the standard for a data sheet for the mixture.

The OSHA Form 20 will be phased out as of May 1986. The Form 20 is similar to the requirements of the HCS for the MSDS, but not identical. Simply following the titles of the blocks on the Form 20 will not result in an appropriate sheet, but it could be modified to comply. Any format is acceptable, as long as the required information is included. Computerized data sheets are permitted as long as they are readily accessible to employees. Many larger firms are planning to install terminals in-plant, and to train key employees to access them. This is acceptable, as long as the information can be obtained during any workshift, as required by the HCS.

Maritime employers fall into three general categories: Shipbuilding and repairing (SIC 3731), Boatbuilding and repairing (SIC 3732) and Shipbreaking (SIC 4469). Shipbuilding and repair activities fall under the coverage of the HCS. OSHA plans to begin rulemaking to expand the scope of the HCS to include shipbreaking. In the interim, employers in the shipbreaking industry may continue to use the OSHA-20 or may follow the MSDS requirements for the HCS (ref. 29 CFR 1910.1200(g)).

(g)(2) If a hazardous chemical is present in the mixture in reportable quantities (i.e., 0.1% for carcinogens, and

1% for other health hazards), it must be reported unless the mixture has been tested as a whole. This would include chemicals which are hazardous only when airborne (such as silica), when they are in a wet mixture. The employer is free to indicate that exposure potential is limited because of the physical form of the mixture, but the "right-to-know" the chemical is present is not obviated by the physical state of the mixture.

If there really is *no* exposure (and the standard defines exposure as including *potential* as well as measurable exposure), either under normal conditions of use or in a foreseeable emergency, then the chemical is not covered by the standard. (See paragraph (b)(2).) In some cases, the item would qualify as an "article", and be exempted from the standard in any event. In the case of liquid mixtures, this provision has to be considered very carefully. Using the silica example, it is possible that, if the mixture dries upon application, there is a potential for the silica to become airborne, and thus a potential for exposure. The presence of silica must be indicated on the MSDS for the liquid mixture in this situation.

Employee Information and Training

(h) Employees are to be trained at the time they are assigned to work with a hazardous chemical. The point of this provision in the standard is to have information prior to exposure to prevent the occurrence of adverse health effects. This purpose cannot be met if training is delayed until a later date.

Retraining is to be done when a new *hazard* is introduced into the work area, not a new *chemical*. For example, if a new solvent is brought into the work-place, and it has hazards similar to existing chemicals for which training has already been done, then no new training is required. Of course, the substance-specific data sheet must be available, and the product must be properly labeled. However, if the solvent is a suspect carcinogen, and there has never been a carcinogenic hazard in the workplace before, then new training on the carcinogenic hazard must be done in the work areas where employees will be exposed to it.

Giving an employee a data sheet to read does not satisfy the intent of the standard with regard to training. The training (as described in the preamble to the HCS) is to be a forum for explaining to employees not only the hazards of the chemicals in their work areas, but also how to use the information generated in the Hazard Communication Program. This can be accomplished in many ways (audiovisuals, classroom instruction, interac-

tive video), and ideally should include an opportunity for employees to ask questions to ensure that they understand the information presented to them.

Trade Secrets.

(i)(2) The designation of an incident as a "medical emergency" is left to the discretion of the treating physician or nurse.

Appendix B

Sample Letter, MSDS Query

Dear (Name or Position of Responsible Employer Representative):

Representative of the Occupational Safety and Health Administration (OSHA) recently visited (company name), which purchases the following chemical(s) from your company:

(List chemicals, products)

OPTION 1: At the time of our visit, (company name) did not have Material Safety Data Sheets (MSDS's) for these products.

OPTION 2: At the time of our visit, Material Safety Data Sheets (MSDS's) supplied by your company were found to be deficient. (Describe the specific deficiencies.)

You are required under OSHA's Hazard Communication Standard (29 CFR 1910.1200) to perform hazard determinations, label containers, and provide the MSDS for all hazardous chemicals which you produce or import. A copy of the standard is provided for your reference. Please immediately send properly completed material safety data sheets for the chemicals listed above to your customer.

Thank you for your assistance. If you have any questions regarding this matter, please feel free to contact me at (insert telephone number).

Sincerely,

Area Director

Appendix C

Hazard Evaluation Procedures

The hazard evaluation procedures required by the standard are, of necessity, performance-oriented. There

is no generally accepted process agreed upon by the scientific community. Basically, OSHA's concern is that the information on labels and data sheets, and in the training program, is adequate and accurate. Whether that is accomplished by reviewing 2 studies or 50 studies is irrelevant.

Although specific procedures to follow cannot be established, general guidance can be provided. The hazard evaluation process can be characterized as a "tiered" approach — the extent to which a chemical must be evaluated depends to a large degree upon the common knowledge regarding the chemical, whether its health effects are under review, and how prevalent it is in the workplace.

1. The first step for CSHO's evaluating chemicals is to determine whether the chemical is part of the "floor" of chemicals to be considered hazardous in all situations.

a. Any substance for which OSHA has a permissible exposure limit (PEL) in 1910.1000, or a substance-specific standard in Subpart Z, is to be included in the Hazard Communication Program. This floor includes any compound of such substances where we would sample to determine compliance with the PEL.

b. Any substance for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a Threshold Limit Value (TLV) in the latest edition of their annual list is to be included in the Hazard Communication Program. Any compound of these substances would also be included.

c. Any substance which the national Toxicology Program (NTP) or the International Agency for Research on Cancer (IARC) has found to be a suspect or confirmed carcinogen, or which OSHA regulates as a carcinogen is to be included in the Hazard Communication Program. For NTP, appearing on the annual listing constitutes a positive finding of suspect or confirmed carcinogenicity. For IARC, it is necessary to look at the actual evaluations to determine their findings. In some cases, for example, a group of compounds will be listed by IARC in a summary as being carcinogenic, but closer examination of the appropriate monograph will reveal that they had data only for certain compounds. Anything categorized by IARC as Groups I and II are covered by the HCS — Group III is not.

d. Sources to generally establish hazards of the 2311 chemicals that are part of the floor of hazardous chemicals covered by the standard:

OSHA's Industrial Hygiene Technical Manual
NIOSH/OSHA Occupational Health Guidelines
Documentation for the Threshold Limit Values
NTP Summary of the Annual Report on Carcinogens
IARC Monographs

In addition, the CSHO should check the *NIOSH Registry of Toxic Effects of Chemical Substances* to see if any hazards are indicated which do not appear in these sources. If there are, further study should be done to evaluate the hazards. RTECS should never be considered a definitive source establishing hazard since it consists of unevaluated data. It is a useful screening resource.

2. The second step is to consult other generally available sources to see what has been published regarding the chemical. Patty's *Industrial Hygiene and Toxicology* would be one such source. Material Safety Data Sheets available through information services would also be useful. The Technical Data Center can provide assistance in this regard.

3. The third step, for those chemicals where information is not readily available, or where such available information is not complete, is to perform searches of bibliographic data bases. In general, the National Library of Medicine (NLM) services should be used. These include the Toxicology Data Bank (TDB), TOXLINE, and MEDLARS. The information generated by these data bases should be evaluated using the criteria in Appendix B of the HCS; i.e., to qualify as an acceptable study, it must be conducted according to scientific principles (e.g., in animal studies, number of subjects is adequate to do statistical analyses of the results; control group is used), and the study must show statistically significant results indicating an adverse health effect. This evaluation obviously requires a subjective, professional assessment. Any problems should be referred to the Directorate of Field Operations (through the Regional Office) for assistance. In general, uncorroborated case reports and *in vitro* studies, such as Ames tests, are useful pieces of information, but not definitive findings of hazards. Animal studies involving species other than those indicated in the acute hazard definitions must be evaluated as well. The acute hazard definitions are not included in the standard to "categorize" chemicals, but rather just to establish that chemicals meeting those definitions fall under the coverage of the standard.

4. In some cases, the only information available on a substance may be employer-generated data. If the employer indicates that such information is the basis for the hazard evaluation, the CSHO shall ask to see it to complete the OSHA evaluation.

In cases where the employer denies the CSHO access to its own hazard data, and no published data on the chemical can be found to review the sufficiency of the hazard determination, the Directorate of Field Operations shall be contacted for assistance. Field Operations staff will develop procedures for obtaining unpublished

OSHA DRAFT VOLUNTARY FORM FOR MATERIAL SAFETY DATA SHEETS

DRAFT

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)



IDENTITY (As Used on Label and List)

Note: Blank spaces are not permitted. If any item is not applicable, or no
information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name

Emergency Telephone Number

Address (Number, Street, City, State, and ZIP Code)

Telephone Number for Information

Date Prepared

Signature of Preparer (optional)

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
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Section III — Physical/Chemical Characteristics

Boiling Point

Specific Gravity ($H_2O = 1$)

Vapor Pressure (mm Hg.)

Melting Point

Vapor Density (AIR = 1)

Evaporation Rate
(Butyl Acetate = 1)

Solubility in Water

Appearance and Odor

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)

Flammable Limits

LEL

UEL

Extinguishing Media

Special Fire Fighting Procedures

Unusual Fire and Explosion Hazards