North Carolina Department of Labor
Occupational Safety and Health Division
Raleigh, NC

Field Information System CPL 2-2.38D

Subject: Inspection Procedures for the Hazard Communication Standard, 29 CFR 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, and 1928.21.

Discussion: This instruction establishes state policy and provides clarification to ensure uniform enforcement of the Hazard Communication Standard.

Action: District supervisors will ensure that this instruction is used statewide. This instruction cancels and replaces CPL 2-2.38C. Please remove CPL 2-2.38C from your FIS notebook and replace it with CPL 2-2.38D. This instruction applies statewide and is effective in North Carolina on the date that it is signed. It will remain in effect until canceled or replaced.

Signed on Original
Robert K. Andrews, Jr
Director

4/16/98
Date of Signature

DIRECTIVE NUMBER: CPL 2-2.38D	**EFFECTIVE DATE:** March 20, 1998
SUBJECT: Inspection Procedures for the Hazard Communication Standard, 29 CFR 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, and 1928.21	

ABSTRACT

Purpose: This instruction establishes policies and provides clarifications to ensure uniform enforcement of the Hazard Communication Standard (HCS).

Scope: This instruction applies OSHA-wide.

References: OSHA Instruction CPL 2.111, Citation Policy for Paperwork and Written
Program Requirement Violations.
OSHA Instruction CPL 2-2.43A, Chemical Information Manual - Refer to the
OCIS Chemical Information Database.
OSHA Instruction STP 2-1.117, State Standards.
Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Cancellations: OSHA Instruction CPL 2-2.38C, October 22, 1990.

State Impact: This instruction describes a Federal Program change for which State adoption is not required. See paragraph I.

Action: OSHA Regional Administrators and Area Directors shall use the guidelines in this instruction to ensure uniform enforcement of the HCS.

Originating Office: Office of Health Compliance Assistance, Directorate of Compliance Programs (DCP).

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By and Under the Authority of
Charles N. Jeffress
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I. Purpose. This instruction establishes policies and provides clarifications to ensure uniform enforcement of the Hazard Communication Standard (HCS).

II. Scope. This instruction applies OSHA-wide.

III. Cancellation.
- A. OSHA Instruction CPL 2-2.38C, October 22, 1990.
- B. Compliance Instruction, "Hazard Communication Standard: Documentation of Citations Related to the Exposure to Hazardous Substances and Consumer Products" dated March 21, 1995, to OSHA Regional Administrators from John B. Miles, Jr.

IV. Action Information.
- A. Responsible Office. Office of Health Compliance Assistance.
- B. Action Offices. OSHA Regional, Area and District Offices, State Designees.
- C. Information Offices. Consultation Project Managers.

V. References.
- A. OSHA Instruction CPL 2.111, Citation Policy for Paperwork and Written Program Requirement Violations, dated November 27, 1995. .
- B. OSHA Instruction CPL 2-2.43A, Chemical Information Manual - Refer to the OCIS Chemical Information Database, dated July 1, 1991.
- C. OSHA Instruction STP 2-1.117, State Standards, dated August 31, 1984.

D. Hazard Communication Standard (HCS), 29 CFR 1910.1200 was published in the Federal Register on November 25, 1983 (48 F.R. 53280).

VI. Action. OSHA Regional Administrators and Area Directors shall use the guidelines in this instruction to ensure uniform enforcement of the HCS. The Directorate of Compliance Programs, Office of Health Compliance Assistance, will provide support as necessary to assist the Regional Administrators and Area Directors in enforcing the HCS.

VII. State Impact. This instruction describes a Federal Program Change for which State adoption is not required. See paragraph I.

VIII. Federal Program Change. This instruction describes a Federal Program change for which State adoption is not required.

A. In order to effectively enforce safety and health standards, guidance to compliance staff is necessary. Therefore, although adoption of this instruction is not required, States are expected to have standards, enforcement policies and procedures which are at least as effective as those of Federal OSHA. A State's procedures for enforcement of its hazard communication standard should address the means by which the State will handle referrals from Federal OSHA or other State plans concerning inadequate or deficient MSDSs prepared by a manufacturer within its jurisdiction. (See paragraph E.1.d. of this instruction.)

IX. Background. A final Hazard Communication Standard (HCS), 29 CFR 1910.1200, covering the manufacturing sector, Standard Industrial Classification Codes (SIC) 20-39, was published in the Federal Register on November 25, 1983 (48 F.R. 53280). As a result of a court challenge, OSHA was ordered by the U.S. Court of Appeals for the Third Circuit to expand the scope of the standard without further rulemaking.

A. On August 24, 1987, a final rule covering all employers was published in the Federal Register. Due to subsequent court and administrative actions, OSHA was prevented from enforcing the rule in the construction industry, and from enforcing in all industries, three requirements dealing with providing and maintaining material safety data sheets (MSDSs) on multi-employer worksites, coverage of consumer products, and the coverage of drugs in the non-manufacturing sector.

B. As a result of the February 21, 1990, Supreme Court decision (see Dole, Secretary of Labor, et. al., v. United Steelworkers of America et. al., No. 88-1434), all provisions of the rule are now in effect for all industrial segments, including the three previously stayed provisions mentioned above. OSHA extended the compliance date until March 17, 1989, for programmed inspections in the construction industry.

C. On February 9, 1994, OSHA published the final rule for Hazard Communication (59 F.R. 6126). This modified final rule included a number of minor changes and technical amendments to further clarify the requirements of the standard.

X. Organization of this Instruction. Compliance guidelines are addressed within the main part of this instruction. Clarifications, interpretations, review aids and other information are provided in Appendices A through E. This directive will include references which will allow the interpretative provisions to be accessed through the OSHA Web Site.

A. Appendix A of this instruction provides clarifications of provisions of the standard where significant interpretations have been necessary to ensure uniform enforcement and understanding.
B. Appendix B provides a sample letter for inquiries regarding missing or deficient MSDSs and labels.
C. Appendix C provides general guidelines for evaluation of hazards.
D. Appendix D provides a guide for reviewing MSDSs.
E. Appendix E provides a sample Hazard Communication Program.

XI. Inspection Guidelines. The following guidelines apply to all inspections conducted to determine compliance with the HCS:

Inspection Guidance. Although the HCS contains some specification requirements, it is largely a performance-oriented standard. The standard establishes a goal that allows employers wide flexibility to develop a program suitable to their facility. CSHOs should weigh particular HCS deficiencies in light of the effectiveness of an employer's overall hazard communication program. Citations should be written to reflect the degree that the employer failed to meet this goal and the hazard the deficiency represents.

Documentation. In addition to those items required by the FIRM, when citations are recommended, the CSHO shall document the following on the OSHA-1B or, as appropriate, elsewhere in the case file:

A. Name of the chemical(s)
B. Name of the person preparing the hazard determination, written program, label, MSDS, etc., and the company for whom they work.
C. CSHOs shall ensure that the number of employees who may be exposed (including potential exposure or foreseeable emergencies) to the chemical in the establishment is documented.
D. Health and physical hazards of the chemical.
E. If practical, include a photocopy or a photograph of inaccurate and/or any incomplete label(s)/MSDS, or video footage of unlabeled containers

in the case file. Otherwise document the specific deficiency in the case file. If the volume of inaccurate/incomplete MSDSs cannot reasonably be included in the file, then a representative number should be documented, indexing those referenced in the citation.

F. Scope and Application - Paragraph (b). The scope paragraph clearly states that the HCS applies to any chemical which is known to be present in the workplace in a manner that employees may be exposed, regardless of whether the employer has created the chemical exposure. The mere presence of a hazardous chemical in the workplace does not trigger coverage under the standard. There must be actual or potential exposure to an employee.

1. Inspection Guidelines
    a. A complete exemption from all requirements of the HCS applies for only those items listed under (b)(6) and should not be confused with the labeling exemptions at (b)(5). The (b)(5) exemptions only apply to chemicals which are subject to the labeling requirements of certain other Federal agencies.
    b. Laboratory coverage is dealt with in paragraph (b)(3). Work operations where employees only handle chemicals in sealed containers (such as found in marine cargo handling, warehousing, and retail sales) are covered to the extent as explained in paragraph (b)(4).
2. Citation Guidelines
    a. Consumer Products, 1910.1200(b)(6)(ix) - It is the Agency's policy not to issue citations for consumer products unless the CSHO can document that the product was used in the workplace in a manner not intended by the manufacturer or the frequency and duration of use results in exposures that are *significantly greater* than those experienced by a normal consumer. To ensure that citations of the HCS for consumer products are adequately documented, the following elements must be included in the case file:
        - What information established the chemical as a consumer product? For instance, was the container label subject to the Consumer Product Safety Act provisions? (The term "consumer product" means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary

household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise...(15 U.S.C.A. 2052))

- What is/are the hazardous chemical(s) present in the product to which employees were exposed? What is/are the concentration(s) of the hazardous chemical(s) present? Was the product included in the employer's hazardous chemical inventory?
- What is the duration of use of the product, i.e., for what period of time did the employees use the chemical during the workshift and workweek? Did it greatly exceed normal or expected use by a consumer?
- Was the frequency of employee use *significantly greater* than that of a normal consumer? (See Appendix A.)
- How was the product used and in what amounts? Was the product used in the workplace for the purpose intended by the manufacturer?
- When available, include in the file the MSDS for the cited product to aid in determining coverage and intended use(s).

(1) The above instruction regarding consumer products cancels and supersedes the Agency's March 21, 1995, compliance instruction to OSHA Regional Administrators entitled, "HCS: Documentation of Citations Related to the Exposure to Hazardous Substances and Consumer Products." This document is included as Appendix A of OSHA Instruction CPL 2.111.

b. Articles, 1910.1200(b)(6)(v) - For HCS violations involving manufactured items which under normal conditions of use may release hazardous chemicals and are not otherwise exempted from coverage as "articles," the following shall be documented in the case file:

- What is the hazardous chemical in the item to which employees were exposed? Was this item included in the employer's hazardous chemical inventory?
- What were the activities/operations that resulted in employee exposure to the hazardous chemical(s)? Did the release of the covered chemical(s) pose any potential physical hazard or health risk to the employees?
- Include a copy of the MSDS, where available, for the cited product.

c. For both consumer products and items not meeting the article exemption, the specific hazardous chemical in the product/item shall be described in the citation. In the case of mixtures, the concentration of the hazardous chemical shall also be noted. For example, the Agency shall not issue citations simply stating that "glue" or "dishwashing liquid" was the hazardous consumer product or that "brick" was the hazardous chemical in a manufactured item. The citation must state the name of the hazardous chemical (for example, silica, methyl ethyl ketone, sodium hydroxide, etc.).

G. Hazard Determination - Paragraph (d). Only chemical manufacturers and importers are required to perform hazard determinations on all chemicals they produce or import, although distributors and employers may also choose to do so. Hazard determination procedures must be in writing and made available, upon request, to employees, the National Institute for Occupational Safety and Health (NIOSH), and OSHA. Appendix C is provided as a guide for use when assessing appropriate hazard evaluation procedures.

1. Inspection Guidelines. The adequacy of a company's hazard determination program should be assessed primarily by examining the outcome of that determination; i.e., the accuracy and adequacy of the information on labels and MSDSs and by reviewing the manufacturer's/distributor's written hazard evaluation procedures. The written procedures generally describe the process followed; they do not have to address, individually, each chemical evaluated.

a. The hazard evaluation must include an assessment of both physical and health hazards. The chemical manufacturer or importer must consider the potential exposures that may occur when downstream employers use the product, and

address the hazards that may result from that use on the label and MSDS prepared for the product.

b. Hazard determination procedures do not have to be maintained on site, consequently, the CSHO may have to request them. The CSHO may allow the manufacturer (importer, distributor, employer) up to five working days to produce the procedures.

c. In the event that there are any questions concerning the adequacy of the scientific data underlying a chemical manufacturer's hazard determination, the Area Director (AD) should refer those findings to OSHA's Salt Lake Laboratory for review.

2. Citation Guidelines.

a. Citations for violations of paragraph (d)(1) shall be issued when the preparer has failed to perform a hazard determination. Paragraphs (d)(2), (d)(3), (d)(4), and (d)(5) of the standard shall be used, as appropriate.

b. If the preparer has not developed an MSDS and no written procedures are available, then violations of both paragraphs (d)(1) and (d)(6) exist and shall be recommended for citation. (Refer to paragraph E.2. of this instruction for guidance.)

c. Failure to provide the hazard determination procedures within five working days shall result in the issuance of a citation under (d)(6).

H. Written Hazard Communication Program, Paragraph (e). CSHOs shall review the employer's written hazard communication program to determine if all applicable requirements of paragraph (e) have been addressed. The HCS obligates all employers, including those on multi-employer worksites, who may expose their employees (or employees of other employers) to hazardous chemicals to develop a written program.

1. Inspection Guidelines.

a. The written program should be reviewed first, prior to ascertaining whether the elements of the program have been implemented in the workplace. In general, the written program should consider the following elements, where applicable:

(1) Labels and Other Forms of Warning.

b. Designation of person(s) responsible for ensuring labeling of in-plant containers.
c. Designation of person(s) responsible for ensuring labeling on shipped containers.
d. Description of labeling system(s) used.
e. Description of written alternatives to labeling of in-plant containers, where applicable.
f. Procedures to review and update label information when necessary.

(2) Material Safety Data Sheets.

g. Designation of person(s) responsible for obtaining/maintaining the MSDSs.
h. How the data sheets are to be maintained (e.g., in notebooks in the work area(s), in a pick-up truck at the jobsite, via telefax), procedures on how to retrieve MSDSs electronically, including back-up systems to be used in the event of failure of the electronic equipment, and how employees obtain access to the MSDSs.
i. Procedures to follow when the MSDS is not received at the time of the first shipment.
j. For chemical manufacturers or importers, procedures for updating the MSDS when new and significant health information is found.

(3) Training.

k. Designation of person(s) responsible for conducting training.
l. Format of the program to be used (audiovisuals, classroom instruction, etc.).
m. Elements of the training program--check to see if the written program addresses how the duties outlined in (h)(2) and (h)(3) will be met.
n. Procedures to train new employees at the time of their initial assignment and to train employees when a new hazard is introduced into the workplace.
o. Procedures to train employees regarding new hazards to which they may be exposed when working on or near another employer's worksite (i.e., hazards introduced by other employers).

(4) Additional Topics To Be Reviewed.

p. Is a list of the hazardous chemicals part of the written program?
q. Are methods the employer will use to inform employees of the hazards of non-routine tasks outlined? Do those methods include procedures regarding how employees will be informed of potential hazards at other worksites they may visit and at multi-employer worksites?
r. Are employees informed of the hazards associated with chemicals contained in unlabeled pipes in their work areas?
s. Does the written plan include the methods the employer will use on multi-employer worksites to provide other employers with on-site access to MSDSs?
t. Does the plan include the methods the employer will use at multi-employer worksites to inform other employers of any precautionary measures that need to be taken to protect employees?
u. For multi-employer workplaces, are the methods the employer will use to inform the other employer(s) of the labeling system used clearly described?
v. Is the written program made available to employees and their designated representatives upon request?

2. Citation Guidelines.
   a. Generally, all violations of paragraph (e) shall be grouped with the violated element(s) listed in the subparagraphs of (e) and/or violations of paragraphs (f), (g), and (h) as appropriate, since (e)(1) is the only provision under paragraph (e) which addresses the development, implementation and maintenance of the written hazard communication program. Specific citation guidance is given below:

      (1) If an employer has done nothing to comply with the HCS, citations for violations of paragraphs (e), (f), (g), and (h) of the standard may be issued as separate items, with separate penalties. Normally these employers will be cited for violations of (e)(1), (f)(1), (g)(1) and (h)(2) & (3).

      (2) Where employees are exposed or potentially exposed to a hazardous chemical and labeling, MSDS, chemical inventory, and training requirements are met, but there is

no written plan, violations of 1910.1200(e) shall be noted as De Minimis and no citations shall be issued.

(3) On multi-employer worksites (MEW), the CSHO's should refer to enforcement policies for MEW in the FIRM. Employers on such sites who do not use hazardous chemicals but whose employees are exposed to the chemicals used by other employers are required to have a program and train their employees on the hazards of the chemicals in the work areas. If an employer fails to comply with this, the employer should be cited for paragraphs (e)(1) and appropriate sections of (h). Paragraph (e)(2) is used to cite employers on MEW who have a program but have failed to include the methods to be used to provide other employers on-site access to MSDSs, labeling systems used in the workplace, or to explain the precautionary measures which need to be taken to protect other employees on the worksite.

I. Labels and Other Forms of Warning, Paragraph (f). Labels or other markings on each container must include the identity and appropriate hazard warnings, including target organ effects of the hazardous chemical. Labels on shipped containers must also include the name and address of the chemical manufacturer, importer, or other responsible party.

1. Inspection Guidelines.
    a. CSHOs shall determine that containers are labeled, that the labels are legible, and that the labels are prominently displayed.
    b. Labels must be in English. Labels and MSDS's may also be printed in additional languages.
    c. The CSHO shall determine whether the label identity can be cross-referenced with the MSDS and the list of hazardous chemicals.
    d. CSHOs must consider alternate labeling provisions (for example tags or markings) for containers which are of unusual shape or proportion and do not easily accommodate a legible label.
    e. CSHOs shall evaluate the effectiveness of in-plant labeling systems through a review of the employer's training program and MSDS procedures. Such evaluation shall

include interviews with employees to determine their familiarity with the hazards associated with chemicals in their workplace. An effective labeling system is one that ensures that employees are aware of the hazardous effects (including target organ effects) of the chemicals to which they are potentially exposed. (See Appendix A for a discussion of effective labeling systems.)

f. Guidelines for referrals regarding inadequate labels are dealt with in this instruction, see paragraph E.1.d..

2. Citation Guidelines.

a. Chemical manufacturers, importers, and distributors shall be cited for appropriate paragraphs (f)(1)(i) through (f)(1)(iii) of the standard when deficiencies are found relating to products that are shipped downstream. Paragraphs (f)(5)(i), (f)(5)(ii), and (f)(6) of the standard shall be cited when a hazardous chemical is created and/or used in-house only. (See paragraph E.2.b. of this instruction.)

b. No citations shall be issued on paragraph (f)(11). An indefinite stay-of-enforcement has been placed on the requirement that manufacturers update label information within 90 days of becoming aware of significant information regarding the hazards of the chemical. OSHA will alert the regulated community at the time that the stay is lifted.

J. Material Safety Data Sheets, Paragraph (g). The standard requires chemical manufacturers and importers to develop or obtain a material safety data sheet for each hazardous chemical they produce or import.

1. Inspection Guidelines. CSHOs shall evaluate the compliance status of this provision by examining a sample of MSDSs to determine that the MSDSs have been obtained or developed and prepared in accordance with the requirements of paragraphs (g)(2)-(5) of the standard and to ensure that the information regarding the health and physical hazards is accurate. If MSDSs are not updated when new information becomes available, the initial hazard determination performed by the chemical manufacturer or importer is deficient.

a. The CSHO is to complete this review by following the procedures outlined in Hazard Evaluation Procedures, Appendix C, of this instruction. The CSHO shall also use available literature and computer references in the Area

Office as well as Appendix D, Guide to Reviewing MSDS Completeness, in reviewing MSDS.

b. The following items shall be considered when reviewing MSDSs:
   - Do employers have an MSDS for each hazardous chemical used?
   - Does each MSDS contain information which adequately addresses at least the 12 elements required by the standard at (g)(2)(i)-(xii)?
   - Are all sections of the MSDS accurately completed?

c. The CSHO shall ensure compliance with the MSDS transmission provisions of the standard by reviewing the chemical manufacturer's, importer's, or distributor's program for transmitting the MSDSs (including updated MSDSs) to downstream customers.

d. The following procedures apply in situations where the employer's MSDS/label is inadequate or deficient and the employer relied upon the information supplied by chemical manufacturer or importer:

   (1) Employers are not to be held responsible for inaccurate information on the MSDS/label which they did not prepare and they have accepted in good faith from the chemical manufacturer, importer, or distributor.

   (2) CSHOs shall take copies of any MSDS/label with inaccurate or deficient information back to the Area Office for referral to the appropriate State Plan State or Area Office.

   (3) The Area Office within whose jurisdiction the upstream supplier or manufacturer is located shall then ensure that referral procedures outlined herein are followed. State Plan States shall follow referral procedures as required by the State.

   (4) The Area Office or State Plan State to which the referral was made shall notify the referring office of the outcome of the referral.

   (5) Area Offices should expect to receive requests from employers to assist them in obtaining MSDSs or labels in

situations when an inspection has not been conducted. If the Area Director determines that the employer has tried to obtain the information, and has not been able to do so, a letter and/or telephone call from the Area Office to the supplier or manufacturer is the appropriate action in this situation.

(6) In the event that the CSHO needs MSDS information quickly as part of a current inspection, he/she may contact the manufacturer directly prior to making the referral to the AO in whose jurisdiction the manufacturer is located.

(7) Referral Procedures for Distributors. When a distributor has not received an MSDS from the supplier, the CSHO shall recommend that the distributor write to the chemical manufacturer or supplier of the chemical. If the distributor fails to receive the MSDS within a reasonable period of time, for example, five working days, the Area Director shall follow the referral procedures outlined herein.

2. Citation Guidelines. Citations shall be issued to the employer only when MSDSs or labels are missing. Citations to manufacturers or importers for incomplete or inaccurate MSDSs or labels shall include an abatement requirement for the transmittal of corrected MSDSs or labels to all customers with the next shipment of the chemical.

   a. If MSDSs or labels are missing or have not been received, the employer shall be cited unless a good faith effort has been made to obtain the information.

      (1) If a citation is issued to the employer for lack of an MSDS/label and the employer has failed to document that a good faith effort has been made to obtain them, CSHOs shall recommend that the employer write to both the supplier (distributor) and to the manufacturer for the MSDS or label.

   b. Any party who changes the label or MSDS (for example, changing the name or identity of the chemical) becomes the responsible party for the change regardless of whether they are a chemical manufacturer, distributor or employer. Where a distributor adds its name to an MSDS or label

which is inaccurate or incomplete, but makes no other changes to the information on the data sheet or label, citations shall not be issued to the distributor. Distributors, however, who substitute their names on the MSDS or change it in any way become the "responsible party" and must be able to supply the required additional information on the hazardous chemical and appropriate emergency procedures, if necessary. Failure to provide the additional information will result in a violation of (g)(2)(xii) of the standard if noted upon inspection.

c. CSHOs shall cite (g)(1) whenever an inspection reveals that an employer does not have an MSDS. If an employer possesses an MSDS but it is not readily accessible to employees while in their work area, then a violation of (g)(8) shall be cited. Violations of (g)(8) shall also be cited when an employer using electronic access as an integral part of the hazard communication program does not have an adequate back-up system to address emergency situations.

d. On MEW, citations for violations of (g)(8) of the standard shall be issued to the employer responsible for making the MSDS(s) readily accessible, as discussed below. A citation for violation of (e)(2)(i) shall be issued if an employer fails to include the methods by which the employer will inform other employers about on-site access to data sheets.

(1) For example, if an employer on a multi-employer worksite brings hazardous chemicals onto that site and fails to inform other employers about the presence of those chemicals and/or the availability of the MSDS(s), that employer shall be cited for violation of (g)(8) grouped with (e)(2)(i).

(2) Controlling Employer. If the employer uses a general contractor or other employer as an intermediary for storage of the MSDS(s), and that intermediate employer has agreed to hold and provide ready access to the MSDS(s), then the intermediate employer becomes the controlling employer, and is responsible for ensuring the availability of the MSDS(s).

(3) The controlling employer (e.g., general contractor) shall, therefore, normally be cited for violation of (g)(8) if the MSDS(s) are not available; however:

(4) If the MSDS(s) are not available because the subcontractor failed to make them readily accessible, then the subcontractor shall be cited for violation of (g)(8).

K. Employee Information and Training, Paragraph (h). The standard requires the training of all employees exposed or potentially exposed to hazardous chemicals.

1. Inspection Guidelines. Training programs must be evaluated through program review and discussion with management and employees.
    a. Employee interviews will provide general information to the CSHO regarding the training program. It cannot be expected that employees will recall all information provided in the training and be able to repeat it. Employees must be aware of the hazards to which they are exposed, know how to obtain and use information on labels and MSDSs, and know and follow appropriate work practices. 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 following questions may be used by the CSHO in determining the adequacy of the training program:
        - Has a training and information program been established for employees exposed to hazardous chemicals?
        - Is this training provided at the time of initial assignment and whenever a new hazard is introduced into work areas?
        - Have all new employees at this location received training equivalent to the required initial assignment training?
        - If electronic access to MSDSs is being used at a workplace, have employees been adequately trained to retrieve the information?

b. Paragraph (h) requires that information and training be provided to employees regarding the hazards of all chemicals in their work areas including by-products and hazardous chemicals introduced by another employer, provided that they are known to be present in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

c. CSHOs should determine if employees are employed by outside contractors (such as temporary employment agencies) or the inspected employer. (For guidance concerning an employer's responsibility for training temporary employees, see Appendix A.) To establish if an employer-employee relationship exists, the CSHO should determine the following:
   - Who controls the manner and means by which work is accomplished?
   - Who supervises/evaluates the work quality?
   - What and where is the location of the work?
   - Who determines the worker's schedule? (Time of arrival/days worked?)
   - Who provides required instruments, tools, and equipment?
   - What is the history and duration of the relationship between the parties?
   - To what extent can the client/host employer choose a particular worker?
   - Who has the right to assign new projects to the worker?
   - What is the extent of the party's control over when and how long the employee works?
   - Who provides payment and method of payment?
   - Who provides non-salary benefits, if any?
   - Who determines whether a worker gets a raise/bonus?

2. Citation Guidelines. If no form of employee training has been provided, citations shall be issued under (h)(1). Citations shall be issued under paragraph (h)(2) and (h)(3) of the standard, as appropriate, if there is a deficiency in an otherwise existing program. The employer is always ultimately responsible for ensuring that employees are adequately trained, regardless of the method relied upon to comply with the training requirements.

L. Trade Secrets, Paragraph (i). Only specific chemical identities may be withheld under the HCS trade secrets provisions. Even when a chemical's identity is rightfully withheld as a trade secret, its release may be required by the trade secret access provisions in paragraph (i).

1. Inspection Guidelines. CSHOs evaluating MSDSs and hazard determination programs may request disclosure of trade secret identities under paragraph (i)(12) of the HCS. OSHA shall take all steps feasible to protect trade secret identities, including secure filing and return of information when its use is complete.

a. Non-emergencies. Health professionals are entitled to trade secret information when providing medical or other occupational health services to exposed employees. Likewise, the employees themselves and/or their designated representatives are entitled to trade secret information. If these individuals are denied access to trade secret information, the matter may be referred to OSHA for enforcement proceedings.

(1) As stipulated in the standard, OSHA should receive from the referring health professional, employee, or designated representative 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. The Regional Solicitor may be consulted to provide assistance in this regard.

(a) If the Area Director does not believe that there is enough information upon which to base a decision, he/she may contact either the trade secret requester or the trade secret holder for further information. Such requests shall be documented in the case file.

b. 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. Referrals received from treating physicians and nurses relating to a medical emergency shall normally be classified as imminent danger or serious in accordance with the FIRM. Due to the potential risk to life and/or health, the Area Director shall ensure that these referrals are processed

as soon as received. The Area Director or his/her designee shall contact the manufacturer of the chemical by telephone. Telephone numbers are required on the MSDS. The manufacturer shall be informed of the standard's requirements and requested to immediately provide the needed information directly to the treating physician or nurse.

2. Citation Guidelines.
   a. Non-emergencies. In response to non-emergencies, where OSHA believes that the chemical manufacturer, importer or employer will not be able to support the trade secret claim, the withholding of a specific chemical identity shall be cited as a violation of paragraph (g)(2). Where OSHA does not question the claim that a specific chemical identity is a trade secret, but the employer has failed to comply with paragraph (i)(1)(i), (ii), (iii) or (iv), or with (i)(2) or (i)(3), such failure shall be grouped with 1910.1200(g)(2), stating the deficiency in the AVD. For example, the employer claims a trade secret exists but failed to indicate on the MSDS that the specific chemical was being withheld for that reason, as required under paragraph (i)(1)(iii).
   b. Medical emergencies. For medical emergencies, failure to disclose the information shall result in the issuance of a willful citation, if the elements of a willful citation can be established. 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. 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.

XII. Classification and Grouping of Violations. The procedures in the FIRM shall be followed except as modified by this instruction.

A. Citations for violations of paragraphs (e), (f), (g) and (h) of the standard shall be issued as separate items only when there is a pervasive lack of compliance with the Hazard Communication Standard. Otherwise specific guidance in this instruction shall be followed.

B. Generally HCS violations shall be classified as non-serious. Serious violations shall be issued only when the deficiency can contribute to a

potential exposure capable of causing death or serious physical harm. In addition, the CSHO must document that the employer knew or should have known of the violation.

1. Documentation of a HCS violation for a chemical manufacturer or importer could be in the form of a referral generated as a result of OSHA's observation of conditions of use resulting in employee exposure to the hazardous chemical at a downstream user's workplace.

XIII. Interface With Other Standards. In some cases, an employer's duties under other OSHA standards dovetail with requirements of the HCS, resulting in simplified compliance.

A. Access to Exposure Records. The Access to Employee Exposure and Medical Records Standard (29 CFR 1910.1020) and the HCS overlap with regard to MSDSs. MSDSs are specifically identified as exposure records under 29 CFR 1910.1020(c)(5)(iii). Each MSDS received by an employer must be maintained for at least 30 years as required at 1910.1020(d)(1)(ii). The "access standard" does offer an alternative to keeping the MSDSs at 1910.1020(d)(1)(ii)(B), which reads as follows:

"Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name or trade name, if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years."

1. Employers might simplify their responsibilities as they relate to the overlap between these two standards by incorporating the requirements under 29 CFR 1910.1020(d)(1)(ii)(B) with those for the HCS paragraph (e)(1)(i). That is, the list of hazardous chemicals could include information on where chemicals were used and when they were used. These lists would then have to be kept for at least 30 years.
2. Section (e)(4) of the HCS requires employers to make the written hazard communication program available upon request to employees, their representatives, OSHA or NIOSH, in accordance with the requirements at 1910.1020(e). The standard, 1910.1020(e), requires the employer to provide a copy of the requested record (in this case, a copy of the written hazard communication program) "in a reasonable time...but in no event later than fifteen (15) days...." Some employers have incorrectly interpreted this to mean that they have 15 days to produce a copy

of the written program and make it available at the worksite. The intent behind the (e)(4) requirements of the HCS is to allow the employer up to 15 days to provide a written (photo or other) copy of the program to employees who request it. This does not mean the employer has 15 days in which to get the program to the worksite for employees to access. The written program must be available to employees at the worksite at all times, as per 1910.1200 (e)(1).

B. 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories. Quality control laboratories are usually adjuncts of production operations and are not covered under the Laboratory Standard, but are covered under the HCS. For laboratories covered under the Laboratory Standard, the requirements of the HCS are superseded (the more specific standard, 1910.1450, takes precedence). Both the training and information and the hazard identification requirements of the Laboratory Standard are more extensive than the HCS laboratory requirements.

C. Other Health Standards. Paragraph (f)(4) of the HCS references labeling requirements of substance-specific standards. Employers must comply with these substance specific standards. For example, the ethylene oxide (ETO) standard provides a different labeling requirement than the HCS. Labels do not have to be affixed to containers of ETO unless the product is capable of producing employee exposure at or above the action level of 0.5 ppm as an 8-hour time weighted average (29 CFR 1910.1047 (j)(1)(ii)).

Appendix A
CLARIFICATIONS AND INTERPRETATIONS OF THE HAZARD COMMUNICATION STANDARD (HCS)

This appendix includes clarifications and interpretations which answer the most frequently asked questions regarding the HCS. Clarifications are keyed to the most applicable paragraph of the HCS.

PURPOSE, Paragraph (a)

(a)(2)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. Inquiries regarding preemption that require in-depth knowledge of this subject shall be referred through the Directorate of Compliance Programs to the Office of State Programs for response.

The Agency's position regarding State standards has been described in OSHA Instruction STP 2-1.117. This should be consulted when answering questions regarding State standards.

SCOPE AND APPLICATION, Paragraph (b)

(b)(2) The phrase *"known to be present"* is essential to the scope of the standard. If a hazardous chemical is known to be present by the chemical manufacturer or the employer, it is covered by the standard. This includes chemicals to which employees may be exposed during normal operations or in a foreseeable emergency. This means that even though an employer was not responsible for the manufacture of the hazardous chemical, the employer has the responsibility for conveying hazards to his/her employees. For example, the standard applies in the following situations: if employees are exposed to chemicals brought onto a multi-employer worksite by other employer(s) or if service personnel are exposed to natural gas during furnace repair. An employer whose employees are exposed to chemicals "known to be present" must include in their hazard communication program information concerning the hazards of those chemicals.
By-products are covered by the HCS. A manufacturer's or importer's hazard determination procedures must anticipate the full range of downstream uses of their products and account for any hazardous by-products which may be formed. For example, a manufacturer of gasoline must inform downstream users of the hazards of carbon monoxide, since carbon monoxide is a hazardous chemical and is "known to be present" as a by-product resulting from the use of gasoline. Similarly, manufacturers of diesel must inform downstream users of the potential human carcinogenicity of diesel exhaust on the MSDSs for diesel fuel.

The terminology *"exposed under normal conditions of use or in a foreseeable emergency"* excludes substances for which the hazardous chemical is inextricably bound or is not readily available, and, therefore, presents no potential for exposure. ("Exposure" includes accidental or possible exposure, see definition under paragraph (c) of the standard). Further, employees such

as office workers or bank tellers who encounter chemicals only in "non-routine," isolated instances are not covered. However, an employee in a graphic arts department who "routinely" uses paints, adhesives, etc., would be covered by the HCS.

OSHA does not consider either *radiation hazards* or *biological hazards* to be covered by the HCS. If, however, the radiological or biological agent is accompanied by an otherwise covered hazardous chemical, (e.g., a container with a biological sample packed in an organic solvent), then the container would be subject to the requirements of the HCS for the hazardous chemical only.

(b)(3) The coverage of *laboratories* is limited under the HCS, and includes quality control laboratories, laboratories whose function is to produce commercial quantities of materials, and all laboratories connected with production processes. The CSHOs may want to refer to 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories (the Lab Standard). The operating definition of a laboratory is not the same for both standards. The Lab Standard covers only laboratories meeting the criteria of "laboratory use" and "laboratory scale" and excludes procedures that are part of a production process (55 F.R. 3328). The preamble to 29 CFR 1910.1450 states "...most quality control laboratories are not expected to meet the qualification for coverage under the Laboratory Standard. Quality control laboratories are usually adjuncts of production operations..." (55 F.R. 3312). Quality control laboratories would, therefore, generally be covered by the HCS.

Some manufacturers of chemical specialty products have interpreted 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 and is covered under the HCS. Establishments such as dental, photo finishing, and optical laboratories clearly are not considered laboratory operations for the purposes of this standard since they are engaged in the production of a finished product.

Laboratories covered under the HCS do not have to have a written hazard communication program. Therefore, when the required training is performed, employees would be informed that written programs are not required for laboratories.

Paragraph (b)(3)(iii) was revised to clarify the intent of the standard. Employers are required to provide laboratory employees with information and training as

outlined in paragraph (h). Merely providing MSDSs to employees is not considered training for purposes of the standard.

Paragraph (b)(3)(iv) was added to cover laboratory employers who ship hazardous chemicals. A laboratory shipping hazardous chemicals is considered a chemical manufacturer and must meet the hazard evaluation requirements of paragraph (d), the labeling requirements of (f)(1) and MSDS requirements of (g)(6) and (g)(7). In the event that the shipment is of a newly developed chemical, OSHA would expect the laboratory to provide all available information on that chemical. As stated in the preamble, "the HCS is based upon currently available information. If a new chemical is developed, and has not been tested to determine its hazardous effects, then there is no information to transmit. The rule does not require testing of chemicals to be performed."

Quality control samples taken in a plant must be labeled, tagged, or marked 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. A hand-written label may be utilized as long as the required label information is present. 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) Since all containers are subject to leakage and breakage, employees who work in operations where they handle only *sealed containers* (such as warehousing) are potentially exposed to hazardous chemicals, and, therefore, need access to information as well as training. The training required for employees who handle sealed containers is dependent upon the type of chemicals involved, the potential size of any spills or leaks, the type of work performed and what actions employees are expected to take when a spill or leak occurs.

Employers are required to obtain an MSDS for chemicals in sealed containers if an employee requests one and to maintain and make available to employees all MSDSs received. The employer's attempt to obtain an MSDS must begin promptly (normally within a day).

(b)(5) The exemptions described under this paragraph apply to labeling requirements only and are not intended to provide a complete exemption from the standard.

(b)(6) This paragraph totally exempts certain categories of substances from coverage under the HCS.

Hazardous waste - Hazardous waste is exempted from the standard when subject to regulation by the Environmental Protection Agency (EPA), under the Resource Conservation and Recovery Act (RCRA). If the waste is not regulated under RCRA, then the requirements of the standard apply. Once the material is designated as hazardous waste as defined under RCRA, it is totally exempted. Other chemicals which are used by employees at a hazardous waste site that are not hazardous waste are covered under the HCS. (An example would be an acid brought on site by the employer to neutralize a waste product.)

Consumer Products - Ordinarily, OSHA will not cite for employee use of consumer products. A substance is considered a consumer product if it is 1) defined as such under the Consumer Products Safety Act, 2) used in the workplace as intended by the manufacturer and 3) used with the same frequency and duration of exposure expected of a typical consumer. The CSHO must consider whether use of consumer products in the workplace greatly exceeds normal conditions of use or if the use is different than originally intended for the product. As an example, windshield wiper fluid, which contains methanol, is meant to be used in a closed system and sprayed onto the windshield for cleaning. An employee using windshield-wiper fluid on a daily basis to clean windows or other glass surfaces would be covered by the standard, as use of this fluid differs from the intended purpose, and the frequency and duration of exposure is significantly greater than that of a normal consumer. (See paragraph A.2.a. for guidelines.)

Articles - By definition, a manufactured item is exempted as an article if "under normal conditions of use it does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical...and does not pose a physical hazard or health risk to employees." (See paragraph (d)(5) of this appendix for a discussion regarding the terms "health risk" versus " health hazard.") An item may appear to meet the definition of an "article," but produces a hazardous by-product during normal processing. If the cutting, burning, heating, or otherwise processing the article results in employee exposure to a hazardous chemical but such processes are not considered part of its normal conditions of use, the item would be an "article" under the standard, and thus be exempted.

Absent evidence that releases of "very small quantities" could cause health effects in employees, the article exemption would apply. The following items are examples of articles:

Stainless steel table

Vinyl upholstery

Tires

Adhesive tape

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

Metal ingots that will be melted under normal

Conditions of use.

Bricks for use in construction operations, since, under normal condition of use, bricks may be dry cut, drilled, or sawed, and the clay slurry of wet cutting (when dried) releases dust that contains crystalline silica.

Switches with mercury in them that are installed in a maintenance process when it is known that a certain percent break under normal conditions of use.

Lead acid batteries which have the potential to leak, spill or break during normal conditions of use, including foreseeable emergencies. In addition, lead acid batteries have the potential to emit hydrogen which may result in a fire or explosion upon ignition.

CSHOs have to consider the hazardous chemical in the item. The only information that has to be reported in these situations is that which concerns the hazard of the released chemical. Hazardous chemicals which are still bound in the article would continue to be exempted under the "article" exemption.

Wood and wood products - The wood and wood products exemption was never intended by OSHA to exclude wood dust from coverage. This has been clarified in the final rule published February 9, 1994**.** (See Federal Register, Vol. 59, page 6145.) As stated in the preamble, "Wood dust does not share solid wood products' 'self-evident' hazard characteristics that supported the exemption....The potential for exposure to wood dust within the workplace, especially with regard to respirable particles, is not self-evident, nor are its hazards through inhalation so well-known that hazard communication programs are unnecessary." The permissible exposure limits for wood dust must be included on the MSDS, which will generally be developed by the sawmill (or the first employer which handles or processes the raw material in such a way

that the hazardous chemical is "produced" and released into the work environment). Further, any chemical additives present in the wood which present a health hazard must also be included on the MSDS and/or label as appropriate.

Particulates not otherwise regulated (PNOR) - Particulates not otherwise regulated are exempt unless evidence exists that they present a health or physical hazard. For these chemicals, the "PNOR" PEL must be included on the MSDSs**.**

DEFINITIONS, Paragraph (c)

The definitions of the HCS must be consulted to properly interpret and apply the standard.

Article. The definition has been amended to permit the release of "very small quantities, e.g., minute or trace amounts" of a hazardous chemical and still qualify as an article provided that a physical or health risk is not posed to the employees **(**59 F.R. 6146). In evaluating an article, one must consider the health risk which exposure to that article presents. (The term "risk" as opposed to "hazard" is used here, since the hazard is an inherent property of the chemical and exists no matter the quantity of exposure. To be exempted as an article, exposure must not pose a risk to employee health.)

Chemical. The standard's definition of "chemical" is much broader than that which is commonly used. Thus, steel coils which are cut and processed, castings which are subsequently ground or welded upon, bricks that are dry sawed or drilled, carbide blades which are sharpened, are all examples of products which contain chemicals which, if available for exposure, are covered by the HCS.

Chemical Manufacturer. Based on this definition and that of its related terms, an employer that manufactures, processes, formulates, or repackages a hazardous chemical is considered a "chemical manufacturer." This includes those companies which blend or mix chemicals. Such companies can comply with the standard by transmitting the relevant label/MSDS for the components of their mixture (which they, in turn, received in good faith from their suppliers) to their downstream customers. Oil and gas producers are considered chemical manufacturers because they process hazardous chemicals for use or distribution.

Container. This definition includes tank trucks and rail cars. A room or an open area is not to be considered a container and, therefore, a hazardous chemical such as wood dust on the floor of a workplace, or a pile of sand at a construction site, would not have to be labeled. Since only "containers" need to be labeled under the HCS, if there is no container, there is no requirement to label.

Pipes or piping systems, engines, fuel tanks, or other operating systems in a vehicle are not considered to be containers. Thus, LP cylinders that serve as the source of fuel used to operate lift trucks, for example, would not have to be labeled once the fuel tank is installed, although the spare LP cylinder(s) in storage must be labeled since they are containers. Even though containers of fuel such as gasoline and LP clearly are within the scope of the HCS, no requirement exists to label those containers operating the lift truck. The producer still has an obligation to assess the hazards associated with the fuels, including their by-products.

Bricks that are palletized and bound by metal bands are considered to be containers that are to be tagged with an appropriate label.

The standard requires all containers of hazardous chemicals leaving the workplace to be labeled with the required information. Even very small containers must be tagged or marked in a fashion that fulfills the intent of the standard.

Distributor. A distributor who blends, mixes, or otherwise changes the composition of a chemical is considered a chemical manufacturer under the HCS. Employees in these operations are considered to use hazardous chemicals. Under these conditions, the distributor will not be able to claim the sealed container provision in paragraph (b)(4) and will need to meet all applicable provisions of the HCS (including hazard determinations, MSDSs, labeling, training, and a written program).

Paragraph 1200(g)(7) distinguishes between a "distributor" and a "retail distributor." This distinction has been made to recognize that retail establishments primarily deal with the general public. This type of operation makes it difficult to determine, at the point of purchase, whether a customer is an employer who needs a material safety data sheet (MSDS). The "on-request" system has been permitted to preclude the necessity of determining every customer's need for an MSDS at the time of purchase or of providing an MSDS to every customer.

Employee. Employees, such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered. For example, an office worker who occasionally changes the toner in a copying machine would not be covered by the standard. However, an employee who operates a copying machine as part of her/his work duties would be covered by the provisions of the HCS.

Training provisions for temporary employees are addressed under h(1).

Employer. An employer who brings hazardous chemicals into the country for use in their own workplace, becomes an importer and is, therefore, responsible for conducting a hazard determination of the chemical, producing the MSDS, ensuring appropriate labeling, and all other applicable provisions of the standard.

Exposure. It is important to note for purposes of chemical manufacturers' hazard determinations and downstream use by employees, that "exposure" includes any route of entry (such as inhalation, ingestion, skin contact or absorption) and potential exposure, including exposure that could result in the event of a foreseeable emergency.

Foreseeable emergency. Foreseeable emergency does not include employee exposures in the event of an accidental fire, but does include equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release.

Hazardous chemicals. Hazardous chemicals, as defined by the HCS, which are grown, cultivated, or harvested (such as cotton, lumber, and grain) are covered by the HCS at the first point of processing or manufacture. The first employer meeting the definition of a "chemical manufacturer" will be responsible for performing the hazard determination, developing or obtaining the MSDSs, and labeling containers of the hazardous chemicals. For example, saw mills are considered to be the "chemical manufacturer" since they are the first employers who process the product. A saw mill processes timber into lumber thereby creating wood dust, which is a hazardous chemical under the HCS. Grain elevators also meet the definition of a "chemical manufacturer" since they treat, dry, and move grain, creating grain dust, a hazardous chemical under the standard.

Based on a manufacturer's hazard determination, if a fire extinguisher is classified as a hazardous chemical, then it would be subject to the HCS labeling requirement. Under the standard, a compressed gas is considered a physical

hazard and is, therefore, covered. Similarly, several extinguishing agents are also considered hazardous chemicals by nature of their associated health hazards**.**

*Hazard Warning***.** The definition has been amended to include target organ effects on labels in order to convey the specific physical and health hazards of a chemical.

*Produce***.** The definition of "produce" has been expanded and now includes blend, extract, generate, and emit in addition to manufacture, process, formulate, and repackage. This would include the extraction of naturally occurring substances, such as clay and stone which contain crystalline silica.

HAZARD DETERMINATION, Paragraph (d)

(d)(1) Although the chemical manufacturer and the importer have the primary duty for hazard evaluation, some employers may choose to do their own evaluations. Whoever does the evaluation is responsible for the accuracy of the information. The evaluation must assess the hazards associated with the chemicals including hazards related to any anticipated or known use which may result in worker exposure.

Known intermediates and by-products are covered by the HCS and must be addressed in the hazard determination. Decomposition products which are produced during the normal use of the product or in foreseeable emergencies (e.g., plastics which are injection molded, diesel fuel emissions) are covered.

An employer may rely upon the hazard determination performed by the chemical manufacturer. Normally, the chemical manufacturer possesses knowledge of hazardous intermediates, by-products, and decomposition products that can be emitted by their product.

(d)(2) The preparer of the MSDS/label is required to consider all available scientific evidence concerning the hazard(s) of a chemical in addition to consulting the floor of reference sources listed in paragraph (d)(3), which establishes which chemicals are hazardous under the standard. (See Appendix C of this instruction for further guidance on evaluating health effects.) No testing of chemicals to determine hazards is required; the evaluation may be based on information currently available in chemical/scientific literature.

Where at least one positive scientific study exists which is statistically significant and demonstrates adverse health effects, the MSDS must include the

adverse health effects found. This does not necessarily mean that the results of all such studies would also appear on the label. (See Appendix A which discuss label information.)

Any substance which is inextricably bound in a product is not covered under the HCS. For example, a hazard determination for a product containing crystalline silica may reveal that it is bound in a rubber elastomer and under normal conditions of use or during foreseeable emergencies cannot become airborne and, therefore, cannot present an inhalation hazard. In such a situation, the crystalline silica need not be indicated as a hazardous ingredient since it cannot result in employee exposure.

(d)(3) Any chemical regulated in part 1910, Subpart Z, including those listed in the Z Tables or for which there is a TLV in the latest edition of the ACGIH, Threshold Limit Values listing, is considered to be part of the floor of hazardous chemicals covered by the standard.

(d)(4) A chemical manufacturer/importer has the option of reporting negative findings regarding carcinogenicity, but is required to report any positive findings of NTP and/or IARC on the MSDS. It should be noted that negative evidence generated by a producer does not nullify the positive finding by IARC or NTP.

On December 20, 1985, OSHA published an interpretive notice in the Federal Register regarding the carcinogenicity of lubricating oils (Vol. 50 FR 51852). The notice was published in response to a number of inquiries which were received regarding the applicability of the HCS requirements to naphthenic lubricating oils which are refined using a hydrotreatment process. These types of oils may be found in a number of industrial operations, including ink manufacture and the production of synthetic rubber.

Positive findings of carcinogenicity by the International Agency for Research on Cancer (IARC) must be reported under the HCS. The IARC Monograph 33 concludes that there is sufficient evidence to indicate that mildly hydrotreated and mildly solvent refined oils are carcinogenic. Therefore, under the requirements of the HCS, producers of such materials must report such findings on the MSDS for the substance and include appropriate hazard warnings on labels.

IARC also stated that there is inadequate evidence to conclude that severely hydrotreated oils are carcinogenic, and that there is no evidence to indicate that severely solvent-refined oils are carcinogenic. In the absence of any valid,

positive evidence from sources other than IARC regarding the carcinogenicity of severely hydrotreated or severely solvent-refined oils, no reference to carcinogenicity need be included on the MSDS and label for such materials. IARC has also concluded that when an oil is refined using sequential processing of mild hydrotreatment and mild solvent refining, there is no evidence of carcinogenicity.

The questions posed to OSHA concerned the process parameters used for mild hydrotreatment. OSHA examined the studies upon which IARC based its positive findings and concluded that any oil will be considered to be mildly hydrotreated if the hydrotreatment process was conducted using pressure of 800 pounds per square inch or less, and temperatures of 800 degrees Fahrenheit or less, independent of other process parameters. If the oil is produced within these parameters, it must be considered to be potentially carcinogenic under the requirements of the HCS.

(d)(5) While the HCS does not require testing of chemicals to determine their individual hazards, this is allowed and some preparers of MSDSs may choose this option. If a chemical manufacturer chooses to test a mixture as a whole, a full range of tests would have to be performed, including tests to determine health risks and physical hazards. Another accepted approach to hazard determinations is for the manufacturer to test certain properties of a chemical and to rely on the literature for others.

If the mixture has not been tested as a whole, it is assumed to present the same hazards as its individual component parts, and the manufacturer of a mixture may rely on the upstream chemical manufacturers' hazard determinations for those constituent substances. This must be stated in the hazard determination procedures of the manufacturer who is producing the mixture. The MSDS for the mixture would then be comprised of the MSDSs for each component and must be physically grouped together. Information, such as the product identity, the manufacturer's name, address, etc., must be provided on the new MSDS. If the physical characteristics of a mixture have not been objectively determined, the employer may present data in ranges; e.g., flash points range from 70 to 100 degrees Fahrenheit.

The language in paragraph (d)(5)(iv) was amended in the February 9, 1994, Final Rule. The new language indicates that the manufacturer must consider the health *risk* to downstream users when components of a mixture could be released. The previous language, used the term "hazard". This language was changed since a hazard is an inherent property of the chemical, and exists no matter what quantity of the chemical is present. Health risk is a function of the

inherent hazard and the exposure level. In accordance with scientific principles, concentrations which pose a health risk are always covered by HCS even though the concentrations in the mixture may be below the cut-off levels.

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

WRITTEN HAZARD COMMUNICATION PROGRAM, *Paragraph (e)*

(e)(1) All employers with employees who are, or may be, exposed to hazardous chemicals known to be present in their workplaces, must develop, implement, and maintain at each workplace a written hazard communication program. Programs must be developed whether the employer generates the hazard or the hazard is generated by other employers.

(e)(2) Multi-employer worksites are those establishments where employees of more than one employer are performing work. The MSDS information exchange or access requirements pertain to employers who introduce hazardous chemicals into the worksite and expose another employer's employees.

Paragraph (e)(2)(i) requires an employer on a multi-employer worksite to include the methods he/she will use in his/her program to provide other employers with on-site access to MSDSs. This covers each hazardous chemical to which the other employers' employees may be exposed. Therefore, one employer does not have to physically give the other employer the MSDSs but rather must inform others of the location where the MSDSs will be maintained. (e.g., in the general contractor's trailer). The HCS allows employers to decide on the method of information exchange.

(e)(4) Paragraph (e)(4) requires employers to make the written program available upon request to employees, OSHA and NIOSH, in accordance with the requirements of 29 CFR 1910.1020(e). This requirement means that the employer must provide a copy of the written program within the time periods discussed in 1910.1020 (i.e., no later than 15 working days after the request for access is made).

LABELS AND OTHER FORMS OF WARNING, *Paragraph (f)*

(f)(1) Labels provide an immediate warning of the hazards to which employees may be exposed and also provide a link to other sources of more detailed

information. Labels must contain the identity of the chemical, the name and address of the responsible party, and appropriate hazard warnings. The standard's definition of hazard warning has been amended to specifically include target organ effects: "any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical or health hazard(s), including target organ effects, of the chemical(s) in the container(s)." Appendix A of the HCS clearly states that employees exposed to health hazards must be apprised of both changes in body functions and the signs and symptoms that may occur to signal those changes.

The definitions for "physical" and "health" hazard explain which hazards must be covered. The hazard warning must convey the particular hazards of the chemical, including target organ effects. Statements such as "Hazardous if Inhaled," "Caution," "Danger," are precautionary statements and are not to be considered appropriate hazard warnings. If, when inhaled, a chemical causes lung damage, then the appropriate hazard warning is "lung damage," not inhalation.

The label is intended to be an immediate visual reminder of the hazards of a chemical. It is not necessary, however, that every hazard presented by a chemical be listed on the label. The data sheet is used for this purpose. Manufacturers, importers, and distributors will have to assess the evidence regarding the product's hazards and must consider exposures under normal conditions of use or in foreseeable emergencies when evaluating what hazards shall be put on the label. This is not to say that only acute hazards are to be listed on the label, or that well-substantiated hazards should be left off the label because they appear on the data sheet.

As an example of the above, IARC published Monograph No. 44, entitled, "Alcohol Drinking," in which the carcinogenicity of ethanol was determined based on chronic exposure to ethanol through human consumption. Manufacturers and importers must consider this information in performing the hazard determination of a product which contains ethanol. The MSDS would have to list ethanol as a hazardous ingredient along with the findings published in the IARC monograph. However, under normal conditions of use or in a foreseeable emergency, ingestion should not be a route of exposure; therefore, the product would not be listed as a carcinogen on the label.

The Agency believes that the American National Standards Institute's (ANSI) Standard Z129.1 - 1994 provides much useful information for employers regarding product labels and will generally be very helpful in complying with the HCS. The Agency has one concern, however, regarding ANSI's health

hazard evaluation process. The ANSI standard states that labeling recommendations are not based only on the inherent properties of the chemical, but are directed to the avoidance of hazardous exposures resulting from customary and reasonably foreseeable occupational use, misuse, handling, and storage.

The Agency has stated from the outset that the HCS is based on the premise that chemicals have inherent characteristics that pose potential hazards, and workers have the right to know what those potential hazards are.

Exposure calculations are not permitted in determining whether a hazard must appear on a label. If there is a potential for exposure other than in minute, trace or very small quantities, a hazard warning must be included when substantiated. Chemical manufacturers, distributors, or importers may not exclude hazards based on presumed or perceived levels of exposure downstream (i.e., omitting a carcinogenic hazard warning because, in the supplier's estimate, presumed exposures will not be high enough to cause the effect). Exposure determines the degree of risk and should be addressed in training programs by the downstream employer.

CSHOs should note that a label incorporating a rating system is not permitted for shipped containers unless specific hazard warning information is affixed to the container.

In situations where a tank truck, rail car, or similar vehicle comprise the container for the hazardous chemical, the labeling information may either be posted on the outside of the vehicle or attached to the accompanying shipping papers or bill-of-lading. A label may not be shipped separately, even prior to shipment of the hazardous chemical, since to do so defeats the purpose of providing an immediate hazard warning. Mailing labels directly to purchasers by-passes employees involved in transporting and handling the hazardous chemical. (Note the exemption in (f)(2) for solid metals, plastic items, shipments of whole grain, and untreated lumber.)

Labeling requirements apply for shipped containers leaving the workplace regardless of whether the intended destination is interstate or intrastate. Sealed containers intended for export must comply with the labeling provisions if these containers leave the workplace and if downstream employees, such as dock workers, may be exposed to the hazardous chemical(s).

(f)(2) Solid metal, solid (untreated) wood, plastic items, and shipments of whole grain do not result in an exposure or potential exposure to employees

during shipment. Therefore, labels for such items may be transmitted with the initial shipment itself or with the MSDS that is to be provided prior to or at the time of the first shipment, and need not be included with subsequent shipments unless the information changes. This applies only to solid materials which would not fall under the article exemption due to downstream use. Chemicals shipped with these materials remain covered by all labeling provisions of the standard. For example, treated lumber is covered since the lumber is not completely cured at the time of shipment and the hazardous chemical will, to a varying degree, offgas during shipment and be available for exposure to employees.

(f)(5) An employer's obligation to label in-plant containers and of hazardous chemicals requires that appropriate hazard (f)(6) warnings appear on the label pursuant to (f)(5)(ii). Alternatively, an employer may provide general information regarding the hazards of chemicals, as long as other information required by the HCS is immediately available to employees.

The standard recognizes the use of alternative in-plant labeling systems such as the HMIS (Hazardous Material Information System), NFPA (National Fire Protection Association), and others which may be used in industry. These systems rely on numerical and/or alphabetic codes to convey hazards and are generally non-specific. OSHA has permitted these types of in-plant labeling systems to be used when an employer's overall HCS program is proven to be effective despite the potential absence of target organ information on container labels. Under these circumstances, the employer should assure - through more intensified training - that its employees are fully aware of the hazards of the chemicals used. Additionally, employers must ensure that their training program instructs employees on how to use and understand the alternative labeling systems so that employees are aware of the effects (including target organ effects) of the hazardous chemicals to which they are potentially exposed. CSHOs should determine whether workers can recognize what hazards correspond to what code ratings/symbols. This can be achieved through employee interviews.

Employers using alternative labeling systems must ensure that their employees are aware of *all* information required to be conveyed under the HCS. OSHA will make a plant-specific determination of the effectiveness of the complete program when an inspection is conducted. Any employer who relies on one of these types of alternative labeling systems, instead of using labels containing complete health effects information will - in any enforcement action alleging the inadequacy of the labeling system - bear the burden of establishing that it has achieved a level of employee awareness which equals or exceeds that

which would have been achieved if the employer had used labels containing complete health effects information (59 F.R. 6156).

The key to evaluating the effectiveness of any alternative labeling method is to determine whether employees can correlate the visual warning on the in-plant container with the applicable chemical and its appropriate hazard warnings. The alternative labeling system must also be readily accessible to all employees in their work area throughout each work shift. For purposes of this provision, the term "other such written materials" does not include material safety data sheets used in lieu of labels.

CARCINOGEN LABELING (Subpart Z)

The labeling provisions of OSHA's comprehensive substance specific standards (Subpart Z of 1910) contain requirements which may pre-empt HCS labeling provisions. Therefore, containers of hazardous chemicals labeled in accordance with the substance- specific standard will be deemed to be in compliance with the health effects labeling requirements of the standard.

Those chemicals identified as being "known to be carcinogenic" and those substances that may "reasonably be anticipated to be carcinogenic" by NTP must have carcinogen warnings on the label and information on the MSDS. Appearing on NTP's annual list constitutes a positive finding of suspect or confirmed carcinogenicity.

IARC evaluates chemicals, manufacturing processes, and occupational exposures as to their carcinogenic potential. The IARC criteria for judging the adequacy of available data and for evaluating carcinogenic risk to humans were established in 1971 (Volumes 1-16) and revised in 1977 (Volumes 17 and following).

IARC monographs contain evaluations on specific chemicals or processes. At the conclusion of each evaluation, IARC provides a summary evaluation. Periodically, IARC publishes supplements in which chemicals that have already been evaluated in previous monographs are re-evaluated. In cases where a chemical has been re-evaluated, the most recent IARC evaluation shall be relied upon.

IARC provides a summary in Supplement 7 of the chemicals which have been evaluated in Volumes 1-42. Table I of Supplement 7 provides a summary evaluation of all chemicals for which human and animal data were considered.

Table I of Supplement 7 also provides a summary classification of a chemical's carcinogenic risk:

Group 1 - The agent is carcinogenic to humans.

Group 2A - The agent is probably carcinogenic to humans.

Group 2B - The agent is possibly carcinogenic to humans.

Group 3 - The agent is not classifiable as to its carcinogenicity to humans.

Group 4 - The agent is probably not carcinogenic to humans.

All IARC listed chemicals in Groups 1 and 2A must include appropriate entries on both the MSDSs and on the label. Group 2B chemicals need be noted only on the MSDS.

Individual monographs have been published subsequent to Supplement 7. For purposes of compliance with the MSDS and labeling requirements, the IARC monograph's summary evaluation for the chemical can generally be relied upon but it may be necessary to review the evaluations. In some cases, a group of compounds may be listed in the summary as carcinogenic but closer examination of the appropriate monograph will reveal that IARC had data to support the carcinogenicity of only certain compounds. Those compounds are the only ones covered by the HCS. IARC also evaluates specific industrial processes or occupations for evidence of increased carcinogenicity. Findings that an occupation is at increased risk of carcinogenicity, without identification of specific causative agents, do not affect label or MSDS requirements.

Table A1, below, represents a general guide regarding the labeling and MSDS requirements under the HCS. The existence of positive human evidence of carcinogenicity always requires carcinogen warnings on the label. In addition, the existence of one valid, positive study indicating carcinogenic potential in either animals or humans is sufficient basis for a notation on the MSDS.

Given the above criteria, benzene, which is regulated by OSHA as a carcinogen and for which several valid, positive human studies exist, would require carcinogen hazard warnings on both the MSDS and the label. Polyvinyl chloride resin must be labeled as a carcinogen but final molded and extruded products do not need to be (as per 29 CFR 1910.1017).

(f)(11) A stay-of-enforcement has been placed on the requirement for revision of container labels within three months of becoming aware of significant hazard information. OSHA will alert the regulated community at the time that the stay is lifted.

MATERIAL SAFETY DATA SHEETS, *Paragraph (g)*

(g)(1) Chemical manufacturers/importers who choose to purchase data sheets for their products through information services (or sources such as, but not limited to, Internet providers or MSDS repositories) rather than developing the MSDSs themselves, retain responsibility for the downstream flow of

information and for assuring MSDS accuracy. Distributors and employers who in good faith choose to rely upon the sheets provided to them by the chemical manufacturer/importer assume no responsibility for the content and accuracy of the MSDSs.

The MSDS requirements apply to free samples provided by chemical manufacturers and importers since the hazards remain the same regardless of the cost to the employer.

Even though solid metals, wood, plastic items and whole grains are covered differently under the labeling requirements, the full MSDS requirements pertain to these items.

Chemical manufacturers and importers are not required to provide MSDSs for chemicals or articles which are not covered under HCS. If the chemical manufacturer/ importer chooses to provide an MSDS for a non-covered chemical as a customer service, it should be noted on the sheet that the chemical or article has been found by the company not to be covered by the rule. For example:

This product is not considered to be or to contain hazardous chemicals based on evaluations made by our company under the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Distributors and employers are not required to maintain MSDSs for chemicals not covered by the HCS. *No MSDS shall indicate that OSHA has made any findings for a product since the Agency does not make case-by-case hazard determinations.*

Scrap dealers are generally considered distributors and, since their products are not articles, would NOT be exempt from the HCS. If their suppliers are furnishing articles which they did not manufacture, (such as a broken refrigerator), the supplier is not required to provide a label or MSDS. However, if their suppliers added hazardous chemicals to the article, as would be the case if an employer scraps pipes containing a hazardous chemical or its residue, the supplier must provide a label and MSDSs to the scrap dealer. Similarly, manufacturers are also required to pass on any information they have regarding known contaminants of the scrap, as would be the case if cutting fluids were present. In addition, "article" manufacturers that sell for scrap those produced items that fail specification or suppliers who provide, for example, metal tailings from a manufacturing process, are considered by OSHA to have the

required knowledge of the item's constituents and must develop and transmit MSDSs and labels to downstream scrap dealers.

Generally, the only requirement that the HCS places on non-manufacturing scrap dealers is that they send their downstream users those labels and MSDSs received from employers who have scrapped the materials.

(g)(2) Information provided on MSDSs must be accurate. The safety and health precautions must be consistent with the hazards of the chemical.

The standard allows any MSDS format as long as all of the required information is included. The OSHA Form 20, obsolete since May 1986, does not meet all requirements of the current standard. The OSHA Form 20 may be used, provided all additional information required by the standard is included. OSHA has published an optional form (OSHA-174) which may be used to comply with the HCS. Additionally, the ANSI Z400.1-1993 standard for the preparation of MSDSs is a consensus standard which provides an order of presentation for MSDS information and is becoming internationally accepted. It provides guidance for preparers on the agreed order of information, document design, and other issues related to the usability of the completed MSDS. The ANSI standard provides valuable assistance to MSDS preparers, particularly small manufacturers, and is recommended for the preparation of MSDSs. Given the multitude of uses and users for which MSDSs provide information, the ANSI standard provides a uniform approach to addressing HCS concerns, while meeting the diverse needs of the regulated community.

MSDSs must be in English. This requirement was included to prevent importers of chemicals from supplying MSDSs in a foreign language. This requirement, however, does not prevent a chemical manufacturer/employer from translating MSDSs from English into foreign languages, in order to assist non-English speaking employees with training comprehension and hazard recognition.

If a hazardous chemical is present in the mixture in reportable quantities (i.e., 0.1 percent for carcinogens, and 1 percent for other health hazards), it must be reported on the MSDS unless the mixture has been tested as a whole or unless the material is bound in such a way that employees cannot be exposed. For example, if crystalline silica is present in a wet mixture, it is possible that when the mixture dries, there is a potential for the silica to become airborne, and thus create a potential for exposure. In this case, the presence of silica must be indicated on the MSDS for the liquid mixture.

Mixtures, which have not been tested as a whole, are assumed to have the same hazards as each of its hazardous components. The data sheets for each component may satisfy the requirements of the standard. These MSDSs must be physically attached to one another and identified in a manner where they can be clearly cross-referenced with the label. Alternatively, the manufacturer or distributor of the mixture may create a distinct MSDS which lists the individual chemical components of the mixture and their associated hazards.
If the components of a mixture could be released in concentrations which would exceed an OSHA PEL, an ACGIH TLV, or could present a health risk to employees, information on these components must be included on the MSDS regardless if their final concentration in the mixture is less than 1% (or 0.1% for carcinogens). For instance, TDI is a sensitizer at very small concentrations and despite its low concentration in a mixture, can be offgassed in quantities which may present a health risk that must be noted on the MSDS.

MSDSs do not have to report negative findings of carcinogenicity. However, if the MSDS format provides a space for a carcinogen entry, this space must be filled with accurate information as no blank spaces may be present on the MSDS.

MSDSs must include a telephone number for emergency information. There is no requirement that the responsible party staff a telephone line with personnel who can respond to an emergency 24 hours-a-day. The hours of emergency line operation are determined by the chemical manufacturer and should be set after considering the thoroughness of the MSDS, the health/physical hazards of the chemical, the frequency of use and immediacy of information needs, and the availability of information through alternative sources.

(g)(3) MSDS preparers are required to mark all blocks on a form, even if no relevant information has been found for a given category. Computer-generated MSDSs, however, do not have to follow this requirement due to electronic formatting considerations.

(g)(4) Where the evidence supports similar health hazards for a class or family of chemicals, it is acceptable for the MSDS to report those findings with respect to the entire class or family. Thus, a "generic" MSDS may address a group of complex mixtures, such as crude oil, natural gas, or bricks, which have similar hazards and characteristics because their chemical ingredients are essentially the same even though the specific composition varies in each mixture.

(g)(5) The MSDS must be updated only when its preparer becomes newly aware of significant hazard information or ways to protect against the hazards of a chemical. The standard requires that these changes be added within three months of becoming aware of the information.

(g)(6) Chemical manufacturers and importers have an affirmative duty to provide MSDSs to distributors and employers upon initial shipment and also upon request. Thus, a chemical manufacturer and/or importer shall be cited under (g)(6) if they withhold sending MSDSs to downstream users with an initial shipment, with the first shipment after updating an MSDSs, or upon request pending a separate payment for the MSDSs.

(g)(7)As in paragraph (g)(6), distributors have an affirmative duty to provide MSDSs to other distributors and downstream employers and cannot withhold sending the MSDSs pending separate payment. CSHOs should be aware of various changes regulating the relationship between distributors (both retail and wholesale) and employers in the standard.

(g)(8) MSDSs must be readily accessible and there must be no barriers to employee access during the work shift. The Agency interprets the term "readily accessible" to mean immediate access to MSDSs. The employer has flexibility to determine how this will be accomplished. The use of electronic means such as computers with printers, microfiche machines, the Internet, CD-ROMS, fax machines, etc., is acceptable. Employers using electronic means to supply MSDSs to their employees must ensure that reliable devices are readily accessible in the workplace at all times; that workers are trained in the use of these devices, including specific software; that there is an adequate back-up system for rapid access to MSDSs in the event of an emergency, including power outages, equipment, and on-line access delays; and that the system is part of the overall hazard communication program of the workplace. Additionally, employees must be able to access hard copies of the MSDSs, and in the event of medical emergencies, employers must be able to immediately provide copies of MSDSs to medical personnel. Mere transmission of the requested information orally via telephone is not acceptable.

Employers may use off-site MSDS management services to meet the requirements of the HCS only if MSDSs are readily available to employees, either as hard copies in the workplace or through electronic means and as long as the provisions outlined in the previous paragraph are ensured. Despite the use of an MSDS management service, the employer maintains primary responsibility for the hazard communication program, including receipt and use

of the information to develop and implement a site-specific hazard communication program under paragraph (e) of the HCS.

When immediate access to paper or hard copy MSDSs does not exist, CSHOs should evaluate the performance of the employer's system by requesting a specific MSDS. Ultimately, the evaluation of an adequate system will rely on the professional judgement of the CSHO. Factors that may be appropriate to consider when determining if MSDSs are readily accessible include:

1) Are the sheets or alternative methods maintained at a location and under conditions where employees can access them during each work shift, when they are in their work areas?

2) If an electronic system is used for MSDS access (computer, fax, etc.)do employees know how to operate and obtain information from the system? (CSHOs should request an employee to retrieve MSDSs using the electronic system.)

3) Was there an emergency/accident where immediate access was critical?

4) How quickly did the employer respond to the employee's request?

Employees must have immediate access to MSDSs and be able to get information when they need it in order for an employer to be in compliance.

On multi-employer job sites, employers who produce, use or store hazardous chemicals in such a way that other employers' employees are exposed or potentially exposed, must communicate to other employers how the means of access to MSDSs will be accomplished.

(g)(9) Employees who work at more than one site during the work shift must be able to obtain MSDS information immediately in an emergency. MSDSs may be kept at the primary workplace facility, as long as the employer has a representative available at all times to ensure ready access to this information. This is the only situation in which an employer is allowed to transmit hazard information via voice communication. The employer must address in the written hazard communication program how MSDS information will be conveyed to remote worksites.

EMPLOYEE INFORMATION AND TRAINING, Paragraph (h)

(h) Employees are to be trained at the time they are assigned to work with a hazardous chemical. The intent of this provision 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.

The training provisions of the HCS are not satisfied solely by giving employee the data sheets to read. An employer's training program is to be a forum for explaining to employees not only the hazards of the chemicals in their work area, but also how to use the information generated in the hazard communication program. This can be accomplished in many ways (audiovisuals, classroom instruction, interactive video), and should include an opportunity for employees to ask questions to ensure that they understand the information presented to them.

Furthermore, the training must be comprehensible. If the employees receive job instructions in a language other than English, then the training and information to be conveyed under the HCS will also need to be conducted in a foreign language.

Additional training is to be done whenever a new physical or health hazard is introduced into the work area, not a new chemical. For example, if a new solvent is brought into the workplace, and it has hazards similar to existing chemicals for which training has already been conducted, then no new training is required. As with initial training, and in keeping with the intent of the standard, the employer must make employees specifically aware which hazard category (i.e., corrosive, irritant, etc.) the solvent falls within. The substance-specific data sheet must still be available, and the product must be properly labeled. If the newly introduced solvent is a suspect carcinogen, and there has never been a carcinogenic hazard in the workplace before, then new training for carcinogenic hazards must be conducted for employees in those work areas where employees will be exposed.

It is not necessary that the employer retrain each new hire if that employee has received prior training by a past employer, an employee union, or any other entity. General information, such as the rudiments of the HCS could be expected to remain with an employee from one position to another. The employer, however, maintains the responsibility to ensure that their employees are adequately trained and are equipped with the knowledge and information necessary to conduct their jobs safely. It is likely that additional training will be needed since employees must know the specifics of their new employers' programs such as where the MSDSs are located, details of the employer's in-plant labeling system, and the hazards of new chemicals to which they will be

exposed. For example, (h)(3)(iii) requires that employees be trained on the measures they can take to protect themselves from hazards, including specific procedures the employer has implemented such as work practices, emergency procedures, and personal protective equipment to be used. An employer, therefore, has a responsibility to evaluate an employee's level of knowledge with regard to the hazards in the workplace, their familiarity with the requirements of the standard, and the employer's hazard communication program.

Training need not be conducted on each specific chemical found in the workplace, but may be conducted by categories of hazard (e.g., carcinogens, sensitizers, acutely toxic agents) that are or may be encountered by an employee during the course of his duties.

The training requirements also apply if the employer becomes aware via the multi-employer worksite provision of exposures of his/her employees to hazards for which they have not been previously trained.

HCS training of temporary employees is a responsibility that is shared between the temporary agency and the host employer. The host-employer holds the primary responsibility for training since the host employer uses or produces chemicals, creates and controls the hazards, and is, therefore, best suited to inform employees of the chemical hazards specific to the workplace environment. The temporary agency, in turn, maintains a continuing relationship with its employees, and would be, at a minimum, expected to inform employees of the requirements of the standard. Contracts between the temporary agency and the host-employer should be examined to determine if they set out the training responsibilities of both parties, in order to ensure that the employers have complied with all requirements of the regulation.

A frequently overlooked portion of the training provisions is that dealing with emergency procedures. The HCS training is expected to be proportional to the hazards of the workplace. If a chemical is very hazardous, more information would be expected to be provided on the MSDS. Therefore, the training for emergency procedures, including information about the characteristics of the chemical and precautions to be taken, would need to be more extensive. Section 1910.1200(h) requires training of employees on (among other things) the measures employees can take to protect themselves from hazards including emergency procedures and an explanation of the information on the MSDSs.

Questions have arisen regarding the interface of 29 CFR 1910.120 training requirements for emergency procedures and those for the HCS. The scope and extent of employee training regarding emergency procedures will depend upon the employer's emergency response plan. If the employer merely intends to evacuate the work area, the training in emergency procedures could be limited, for example, to information on the emergency alarm system in use at the worksite, evacuation routes, and reporting areas.

In situations where employees are expected to moderate or control the impact of the emergency in a manner similar to an emergency responder, training under 1910.120 would be required. Employers who fall under the scope of HAZWOPER must have either a written emergency response plan or an emergency action plan. If employers expect their own employees to respond to a potential emergency involving a hazardous substance, then the employer must create an emergency response plan and the employees must be trained to perform the duties expected. HAZWOPER does not cover response to incidental spills that do not have the potential for becoming an emergency. Training for responding to such incidental spills would be under the HCS and would include, at a minimum, leak and spill cleanup procedures and the use of appropriate PPE.

Employees that are required to respond to spills that have the potential for becoming an emergency, are covered by the provisions of 1910.120(q). (See definition of emergency response in 1910.120(a)(3).) Therefore, in workplaces where there is a potential for emergencies, the employer's HCS training program would have to address the HAZWOPER emergency response plan and/or emergency action plan. Training under the HCS can be adapted to encompass all of the required training competencies in 29 CFR 1910.120(q)(6)(i), the first responder awareness level, and a single training session could be fashioned to satisfy the requirements of both standards.

TRADE SECRETS, Paragraph (i)

(i)(1) Despite the claim that a hazardous chemical, or a constituent thereof, is a trade secret, the PEL, TLV, or other designated exposure limit must be included on the MSDS.

(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/LABEL QUERY

Date

Company Name
Street Address
City, State, ZIP Code

Dear (Name or Position of Responsible Employer Representative):

Representatives of the Occupational Safety and Health Administration (OSHA)/or State plan designated agency recently visited/or corresponded with (company name), which purchases the following chemical(s) from your company:

(List chemicals, products)

OPTION 1:

At the time of the visit, (company name) did not have material safety data sheets/labels for the above-listed products, despite a prior request to your company.

OPTION 2:

At the time of the visit, material safety data sheets/labels supplied by your company were found to be deficient in the following areas:

(Describe the specific deficiencies.)

You are required under OSHA's Hazard Communication Standard (29 CFR 1910.1200) or your State's right-to-know law 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/labels for the chemicals listed above to your customer and a copy to me. If the MSDSs were deficient, you are required to send revised copies to all of your customers with the first shipment after a MSDS/label is revised. If this information is not received within 30 days, an inspection of your establishment may be conducted by OSHA.

Thank you for your assistance. If you have any questions regarding this matter, please feel free to contact me at _____.

Sincerely,

Area Director

Appendix C
HAZARD EVALUATION PROCEDURES

The hazard evaluation procedures required by the standard are performance-oriented. Basically, OSHA's concern is that the information on labels and data sheets, and in the training program, is adequate and accurate. Although specific procedures to follow and sources of consultation cannot be definitively established, general guidance will be provided herein. 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 CSHOs evaluating chemicals is to determine whether the chemical is part of the "floor" of chemicals to be considered hazardous in all situations.
    a. The floor of chemicals consists of three sources:

        (1) Any substance for which OSHA has a permissible exposure limit (PEL) in 1910.1000, or a comprehensive substance-specific standard in Subpart Z. This includes any compound of such substances where OSHA would sample to determine compliance with the PEL.

        (2) Any substance for which the American Conferenceof Governmental Industrial Hygienists (ACGIH) has a Threshold Limit Value (TLV) in the latest edition of their annual list. Any mixture or combination of these substances would also be included.

        (3) 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.

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

The OSHA Chemical Information Manual.
OSHA Instruction CPL 2-2.43A, October 20, 1987.

NIOSH/OSHA Occupational Health Guidelines.

Documentation for the Threshold Limit Values.

NTP Summary of the Annual Report on Carcinogens.

IARC Monographs.

In addition, the CSHOs should check the NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) 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 for establishing a hazard since it consists of data that has not been evaluated. It is, however, 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. OCIS contains a number of other chemical information sources. Material Safety Data Sheets available through information services would also be useful.
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, the number of subjects is adequate to do statistical analyses of the results; a 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 questions

should be referred to the Directorate of Compliance Programs, Office of Health Compliance Assistance (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 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 in order to complete the OSHA evaluation.
5. 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 Regional Office shall be contacted for assistance in obtaining an administrative subpoena. The Directorate of Compliance Programs shall be contacted if assistance is required in order to obtain unpublished chemical hazard information available from other Federal agencies such as Environmental Protection Agency.
6. If an employer has found any chemical to be non-hazardous, and the CSHO has reason to believe it is hazardous, further investigation is required. The definitions of hazard in the standard are very broad, and it is not expected that many chemicals can be considered nonhazardous under this approach. Those most likely to be exempted would be chemicals that pose no physical hazards, and which have lethal dose findings above the limits found in the acute hazard definitions.
7. In some cases, the employer may not have addressed in the Hazard Communication Program a specific chemical that the CSHO knows to be present through knowledge of the process or through sampling or other investigation of the workplace. This situation should also be further investigated. If the CSHO has information to indicate that there is a hazard, the employer must be able to defend the finding of no hazard.
8. Internet addresses for the above-mentioned organizations are:

   ACGIH - http://www.acgih.org
   NTP - http://ntp-server.niehs.nih.gov
   IARC - http://www.iarc.fr
   OSHA - http://www.osha.gov

Appendix D

GUIDE FOR REVIEWING MSDS COMPLETENESS

NOTE: This guide has been developed for use as an optional aid during inspections.

During CSHO review for Material Safety Data Sheet completeness, the following questions may be helpful:

9. Do chemical manufacturers and importers have an MSDS for each hazardous chemical produced or imported into the United States?
10. Do employers have an MSDS for each hazardous chemical used?
11. Is each MSDS in at least English?
12. Does each MSDS contain at least the:

    (a) Identity used on the label?

    (b) Chemical and common name(s) for single substance hazardous chemicals?

    (c) For mixtures tested as a whole:

        (1) Chemical and common name(s) of the ingredients which contribute to the known hazards?

        (2) Common name(s) of the mixture itself?

    (d) For mixtures not tested as a whole:

        (1) Chemical and common name(s) of all ingredient which are health hazards (1 percent concentration or greater), including carcinogens (0.1 percent concentration or greater)?

        (2) Chemical and common name(s) of all ingredients which are health hazards and present a risk to employees, even though they are present in the mixture in concentrations of less than 1 percent or 0.1 percent for carcinogens?

(e) Chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture?

(f) Physical and chemical characteristics of the hazardous chemical (vapor pressure, flash point, etc.)?

(g) Physical hazards of the hazardous chemical including the potential for fire, explosion, and reactivity?

(h) Health hazards of the hazardous chemical (including signs and symptoms and medical conditions aggravated)?

(I) Primary routes of entry?

(j) OSHA permissible exposure limit (PEL)? The American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)? Other exposure limit(s) (including ceiling and other short term limits)?

(k) Information on carcinogen listings (reference OSHA regulated carcinogens, those indicated in the National Toxicology Program (NTP) Annual Report on Carcinogens and/or those listed by the International Agency for Research on Carcinogens (IARC))?

NOTE: Negative conclusions regarding carcinogenicity, or the fact that there is no information, do not have to be reported unless there is a specific space or blank for carcinogenicity on the form.

(l) Generally applicable procedures and precautions for safe handling and use of the chemical (hygienic practices, maintenance and spill procedures)?

(m) Generally applicable control measures (engineering controls, work practices and personal protective equipment)?

(n) Pertinent emergency and first aid procedures?

(o) Date that the MSDS was prepared or the date of the last change?

(p) Name, address and telephone number of the responsible party?

13. Are all sections of the MSDS completed?

Appendix E
SAMPLE HAZARD COMMUNICATION PROGRAMS (A & B)

NOTE: The following model programs are provided only as guidelines to assist in complying with 29 CFR 1910.1200. They are not intended to supersede the requirements of 29 CFR 1910.1200. Employers should review the Hazard Communication Standard for particular requirements which are applicable to their workplaces.

SAMPLE WRITTEN HAZARD COMMUNICATION PROGRAM (A)

1. Company Policy.

To ensure that information about the dangers of all hazardous chemicals used by (Name of Company) are known by all affected employees, the following hazardous information program has been established:

All work units of this company will participate in the hazard communication program. This written program will be available in the (location) for review by any interested employee.

2. Container Labeling.

The (person/position) will verify that all containers received for use will be clearly labeled as to the contents, note the appropriate hazard warning and list the name and address of the manufacturer.

The (person/position) in each section will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with labels that have the identity and the appropriate hazard warning. For help with labeling, see (person/position).

On the following individual stationary process containers, we are using (description of labeling system used) rather than a label to convey the required information.

We are using an in-house labeling system which relies on (provide a description of any in-house system which used numbers or graphics to convey hazard information.)

The (person/position) will review the company labeling procedures every (provide a time period) and will update labels as required.

3. Material Safety Data Sheets (MSDSs)

The (person/position) is responsible for establishing and monitoring the company MSDS program. He/she will make sure procedures are developed to obtain the necessary MSDSs and will review incoming MSDSs for new or significant health and safety information. He/she will see that any new information is passed on to affected employees. The procedure below will be followed when an MSDS is not received at the time of initial shipment:

(Enter procedure to be followed here.)

Copies of MSDSs for all hazardous chemicals to which employees are exposed or are potentially exposed will be kept in (state location).

MSDSs will be readily available to all employees during each work shift. If an MSDS is not available, contact (person/ position).

MSDSs will be readily available to employees in each work area using the following format:

(Describe company format here.)

Note: If alternatives to paper copies of material safety data sheets is used, describe the format used and how to access the MSDSs.

When revised MSDSs are received, the following procedures will be followed to replace old MSDSs:

(Describe procedures.)

4. Employee Training and Information

The (person/position) is responsible for the Hazard Communication Program. He/she will ensure that all program elements specified below are carried out.

Prior to starting work, each new employee will attend a health and safety orientation that includes the following information and training:

* An overview of the requirements contained in the Hazard Communication Standard.

* The hazardous chemicals present at his/her work area.

* The physical and health risks of the hazardous chemicals.

* Symptoms of overexposure.

* How to determine the presence or release of hazardous chemicals in the work area.

* How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment.

* Steps the company has taken to reduce or prevent exposure to hazardous chemicals.

* Procedures to follow if employees are overexposed to hazardous chemicals.

* How to read labels and MSDSs to obtain hazard information.

* Location of the MSDS file and written hazard communication program.

Prior to introducing a new chemical hazard into any section of this company, each employee in that section will be given information and training as outlined above for the new chemical hazard. The training format will be as follows:

(Enter format, such as audiovisuals, interactive computer programs,classroom instruction, etc.)

5. Hazardous Non-Routine Tasks

Periodically, employees are required to perform non-routine tasks which are hazardous. Some examples of non-routine tasks are: confined space entry, tank cleaning, and painting reactor vessels. Prior to starting work on such projects, each affected employee will be given information by the (person/position) about the hazardous chemicals he or she may encounter during such activity. This information will include specific chemical hazards, protective and safety measures the employee can use, and steps the company is taking to reduce the

hazards, including ventilation, respirators, the presence of another employee (buddy systems), and emergency procedures.

Examples of non-routine tasks performed by employees of this company are:

Task	Hazardous Chemical
******	**********
******	**********

6. Informing other Employers

It is the responsibility of (person/position) to provide other employers with information about hazardous chemicals their employees may be exposed to on a job site and suggested precautions for employees. It is the responsibility of (person/ position) to obtain information about hazardous chemicals used by other employers to which employees of this company may be exposed.

Other employers will be provided with material safety data sheets for hazardous chemicals generated by this company's operations.

Material safety data sheets will be provided to other employers in the following manner:

(Provide company policy here)

In addition to providing a copy of an MSDS to other employers, other employers will be informed of precautionary measures needed to be taken to protect their employees who are exposed to operations performed by this company.

Also, other employers will be informed of the hazard labels used by the company. If symbolic or numerical labeling systems are used, the other employees will be provided with information to understand the labels used for hazardous chemicals for which their employees may have exposure.

7. List of Hazardous Chemicals

The following is a list of all known hazardous chemicals used by our employees. This list includes the name of the chemical manufacturer, the work area the chemicals are used in, the dates of use, and the quantity used. Further

information on each chemical may be obtained from the MSDSs which are located (state location).

When new chemicals are received, this list is updated (including date the chemicals were introduced), within 30 days of introduction into the workplace. To ensure that the chemical is added in a timely manner, the following procedures shall be followed:

(State procedures to be followed)

The hazardous chemical inventory was compiled and is maintained by:

(Name and Telephone Number of Responsible Party)

8. Chemicals in Unlabeled Pipes

Work activities are sometimes performed by employees in areas where chemicals are transferred through unlabeled pipes. Prior to starting work in these areas, the employee shall contact (person/position) for information regarding:

* The chemical in the pipes.

* Potential hazards.

* Safety precautions to be taken.

(Include here the chemical list developed during the inventory. Arrange this list so that you are able to cross-reference it with your MSDS file and the labels on your containers. Additional information such as the manufacturer's telephone number, an emergency number, scientific name, CAS number, the associated task, etc., could be included and might be found useful to employees and the employer.)

9. Program Availability

A copy of this program will be made available, upon request, to employees and their representatives.

Notes for Chemical Manufacturers, Importers, and Distributors

14. Hazard Determination - Chemical manufacturers and importers are to detail the methods they will use to conduct a hazard determination for the chemicals produced or imported in their work places. The procedures should identify the system in place to conduct hazard determinations. The system should identify the person or department responsible for conducting the hazard determination and the research strategy involved. Chemical manufacturers which rely on information from upstream suppliers should state this in their written program.
15. Transmittal of MSDSs - Chemical manufacturers, importers, and distributors should develop a system to ensure that material safety data sheets are transmitted to customers. The system should identify the person or department responsible for ensuring the transmittal of material safety data sheets and should include a method to ensure that transmittal is accomplished as required by 29 CFR 1910.1200.
16. Labels - Chemical manufacturers, importers, and distributors should have a system for ensuring appropriate labeling of hazardous chemicals.
17. Updating Labels/MSDSs - A system should be detailed assigning responsibility and periodic review of scientific information required to update material safety data sheets and labels as required by 29 CFR 1910.1200.

SAMPLE HAZARD COMMUNICATION PROGRAM (B)

Introduction

The Hazard Communication Standard requires you to develop a written hazard communication program. The following is a *sample* hazard communication program that you may use as a guide in developing your program.

Our Hazard Communication Program

General Company Policy

The purpose of this notice is to inform you that our company is complying with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a hazardous chemicals list, by using MSDS's, by ensuring that containers are labeled, and by providing you with training.

This program applies to all work operations in our company where you may be exposed to hazardous chemicals under normal working conditions or during an emergency situation.

The safety and health (S&H) manager, Robert Jones, is the program coordinator, acting as the representative of the plant manager, who has overall responsibility for the program. Mr. Jones will review and update the program, as necessary. Copies of the written program may be obtained from Mr. Jones in Room SD-10.

Under this program, you will be informed of the contents of the Hazard Communication Standard, the hazardous properties of chemicals with which you work, safe handling procedures, and measures to take to protect yourselves from these chemicals. You will also be informed of the hazards associated with non-routine tasks, such as the cleaning of reactor vessels, and the hazards associated with chemicals in unlabeled pipes.

List of Hazardous Chemicals

The safety and health manager will make a list of all hazardous chemicals and related work practices used in the facility, and will update the list as necessary. Our list of chemicals identifies all of the chemicals used in our ten work process areas. A separate list is available for each work area and is posted there. Each list also identifies the corresponding MSDS for each chemical. A master list of these chemicals will be maintained by, and is available from Mr. Jones' office, Room SD-10.

Material Safety Data Sheets (MSDSs)

MSDSs provide you with specific information on the chemicals you use. The safety and health manager, Mr. Jones, will maintain a binder in his office with an MSDS on every substance on the list of hazardous chemicals. The plant manager, Jeff O'Brien, will ensure that each work site maintains MSDSs for the hazardous chemicals in each work area. MSDSs will be made readily available to you at your work stations during your shifts.

The safety and health manager, Mr. Jones, is responsible for acquiring and updating MSDSS. He will contact the chemical manufacturer or vendor if additional research is necessary or if an MSDS has not been supplied with an initial shipment. All new procurements for the company must be cleared by the safety and health manager. A master list of MSDSs is available from Mr. Jones in Room SD-10.

Labels and Other Forms of Warning

The safety and health manager will ensure that all hazardous chemicals in the plant are properly labeled and updated, as necessary. Labels should list at least the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer, importer or other responsible party. Mr. Jones will refer to the corresponding MSDS to assist you in verifying label information. Containers that are shipped from the plant will be checked by the supervisor of shipping and receiving to make sure all containers are property labeled.

If there are a number of stationary containers within a work area that have similar contents and hazards, signs will be posted on them to convey hazard information. On stationary process equipment, regular process sheets, batch tickets, blend tickets, and similar written materials will be substituted for container labels when these documents contain the same information as labels. These written materials will be made readily available to you during your work shift.

If you transfer chemicals from a labeled container to a portable container that is intended only for your immediate use, no labels are required on the portable container. Pipes or piping systems will not be labeled but their contents will be described in training sessions.

Non-Routine Tasks

When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), a special training session will be conducted to inform you of the hazardous chemicals to which you might be

exposed and the precautions you must take to reduce or avoid exposure.

Training

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training on the Hazard Communication Standard and the safe use of those hazardous chemicals. The safety and health manager will conduct these training sessions. A program that uses both audiovisual materials and classroom-type training has been prepared for this purpose. Whenever a new hazard is introduced, additional training will be provided. Regular safety meetings will also be used to review the information presented in the initial training. Foremen and other supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices.

The training program will emphasize these items:

* A summary of the standard and this company's written program.

* The chemical and physical properties of hazardous materials (e.g., flash point, vapor pressure, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes).

* The physical hazards of the chemicals in your work area (e.g., potential for fire, explosion, etc.).

* The health hazards, including signs and symptoms of exposure, of the chemicals in work area and any medical condition known to be aggravated by exposure to these chemicals.

* Procedures to protect against chemicals hazards (e.g., required personal protective equipment, and its proper use and maintenance; work practices or methods to ensure appropriate use and handling of chemicals; and procedures for emergency response).

* Work procedures to follow to assure protection when cleaning hazardous-chemical spills and leaks.

* The location of the MSDSs, how to read and interpret the information on labels and MSDSS, and how employees may obtain additional hazard information.

The safety and health manager or his/her designee will review the employee training program and advise the plant manager on training or retraining needs. Retraining is required when the hazard changes or when a new hazard is introduced into the workplace. It will be company policy to provide training regularly in safety meetings to ensure the effectiveness of the program. As part of the assessment of the training program, the safety and health manager will obtain input from employees regarding the training they have received, and their suggestions for improvement.

Contractor Employers

The safety and health manager, Robert Jones, upon notification by the responsible supervisor, will advise outside contractors, in person, of any chemical hazards that may be encountered in the normal course of their work on the premises, the labeling system in use, the protective measures to be taken, and the safe handling procedures to be used. In addition, Mr. Jones will notify these individuals of the location and availability of MSDSs. Each contractor bringing chemicals on-site must provide Mr. Jones with the appropriate hazard information for these substances, including MSDSs, labels, and precautionary measures to be taken when working with or around these chemicals.

Additional Information

All employees, or their designated representatives, can obtain further information on this written program, the hazard communication standard, applicable MSDSs, and chemical information lists at the safety and health office, Room SD-10.

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