

**ALASKA COURT SYSTEM
HAZARDOUS CHEMICAL
COMMUNICATION PROGRAM**

HazCom Coordinator

ADMINISTRATIVE OFFICES
303 K STREET
ANCHORAGE, ALASKA 99501-2099

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HAZARDOUS CHEMICAL COMMUNICATION PROGRAM

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CHAPTER 1 — INTRODUCTION

This is the written hazardous chemical communication program of the Alaska Court System. We call it the “HazCom Program.” It is adopted by Administrative Bulletin No. 58 (Amended 11/30/2013). The HazCom Program is required by federal and state law. The federal law is the Occupational Safety and Health Administration’s Hazard Communication Standard (29 CFR 1910.1200). The state law is Title 8, subchapter 61, of the Alaska Administrative Code. These laws are shown in Appendix A of this document.

The purpose of the HazCom Program is to make sure that the court system gets all the information it needs in order to keep employees informed and trained about working safely around chemicals. This includes chemicals that employees may be exposed to under normal conditions and in foreseeable emergencies. It also includes chemicals we purchase for use in our workplace and chemicals brought here by contractors.

The HazCom Coordinator is the court system’s single point of contact for the HazCom Program. All information requests or questions should be directed to this person at (907) 264-0573. Here are some key points about the court system’s HazCom Program:

A. TRAINING

Training will be provided to employees handling or possibly exposed to hazardous chemicals or physical agents.¹ These employees will be trained to

- a. detect the presence or release of hazardous chemicals in the workplace; and
- b. recognize hazards of the chemicals and physical agents in the workplace; and
- c. protect themselves from the hazards in the workplace.

Training will also be provided to selected employees who interface frequently with contractors and suppliers of the court system.

B. LABELING

Special rules apply to labeling hazardous chemicals. Primary and secondary containers containing hazardous chemicals will be labeled with appropriate hazard warnings.

C. DATA SHEETS

The HazCom Coordinator will keep a file of material safety data sheets (MSDS) for every toxic or hazardous substance in use, and physical agent data sheets (PADS) for every potential physical hazard (such as noise, heat, or vibration) that an employee may be exposed to. These data sheets will be accessible to employees from the court system’s INTRANet or by contacting the HazCom Coordinator.

D. CHEMICAL HAZARDS

We evaluate every chemical for potential physical and health hazards. This is important because exposure to hazardous chemicals may cause or contribute to health problems such as heart ailments, kidney and lung damage, sterility, cancer, burns, and rashes. Certain chemicals are safety hazards because they can cause fires, explosions, and other serious accidents. A complete definition of physical and health hazards is included in Appendix B. See Chapter 7 for a list of chemicals that we know that are in our workplace today.

¹ See the definition of “employee” in 29 C.F.R. § 1910.1200(c). Office workers who encounter hazardous chemicals only in isolated instances are not required to comply with this rule.

CHAPTER 2 — RESPONSIBILITIES

A. ALL EMPLOYEES

1. Perform job assignments required by the HazCom Program and court system policy.
2. Complete training as instructed.

B. HAZCOM COORDINATOR

1. CHEMICAL LISTS

- a. Keep a current list of hazardous chemicals that we know are in our workplace. List each chemical by the name on the MSDS.
- b. Maintain exclusive control over changes to chemical lists. All other departments must go through the HazCom Coordinator to change any chemical list.
- c. Keep a list of all discontinued products for 30 years. Note the location where each discontinued product was used.

2. WRITTEN HAZCOM PROGRAM

- a. Keep the written HazCom Program up to date and posted online on the court's INTRANet. Notify employees when changes are made to the program.
- b. Give a copy of the written HazCom Program to employees and the OSHA Assistant Secretary or Director upon request.

3. DATA SHEETS

- a. Collect an MSDS for each potentially hazardous chemical that comes into our workplace. Follow up with suppliers that give us an incomplete MSDS or no MSDS at all. Report to OSHA when a supplier does not give us the information we requested.
- b. Distribute MSDS to employees facing possible exposure to chemicals that are being used by contractors in our workplace.
- c. Keep a master file of MSDS for all chemicals that employees may be exposed to, including chemicals brought here by contractors. Keep track of MSDS changes.
- d. Respond to requests for information about MSDS, including requests for first aid or chemical information.

4. COMMUNICATION

- a. Notify contractors about hazards their employees may be exposed to at our workplace.
- b. Notify court system employees about hazards that contractors bring to our workplace that our employees may be exposed to.
- c. Report a summary of program activities every other month to the Administrative Director.

5. TRAINING

Develop and implement basic training for employees handling or possibly exposed to hazardous chemicals or physical agents, and others as provided in this plan.

C. CENTRAL SERVICES SUPERVISOR

1. When an MSDS arrives with a shipment of supplies, send a copy of the MSDS and the order to the HazCom Coordinator. If a shipment of hazardous chemicals arrives without an MSDS, notify the HazCom Coordinator.
2. Check all containers with hazardous chemicals to make sure there is an appropriate hazard warning label. "Hazard warning" means any words, pictures, symbols, or a combination of these things that tell what is hazardous about the chemical in the container. If the container has no hazard warning label, contact the HazCom Coordinator. Do not release the container until it is labeled with an appropriate hazard warning. See Chapter 3 for more about warning labels.

D. FACILITIES MANAGER

1. Notify the HazCom Coordinator when contractors hired by facilities begin a job at the court system.
 - a. The Coordinator will notify contractors about chemicals in our workplace that the contractors' employees may be exposed to.
 - b. The Coordinator will gather information and data sheets from the contractors about chemicals they may be bringing into our workplace.
2. Add this notice to all invitations for bid, requests for proposal, and other purchasing requests: "It is the responsibility of the successful bidder/offeror to comply with provisions of the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and Title 8, Chapter 61 of the Alaska Administrative Code, including sections pertaining to multi-employer workplaces."
3. Tell all landlords from whom the court system leases space that they must comply with the provisions of the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and Title 8, Chapter 61 of the Alaska Administrative Code.
4. Act as an emergency point of contact for reports of hazardous chemicals or agents.

E. PROCUREMENT SPECIALIST

1. Notify the HazCom Coordinator when contractors hired by purchasing begin a job at the court system.
 - a. The Coordinator will notify contractors about chemicals in our workplace that the contractors' employees may be exposed to.
 - b. The Coordinator will gather information and data sheets from the contractors about chemicals they may be bringing into our workplace.
2. Send a copy of every MSDS and PADS received from every supplier, with a copy of the order, to the HazCom Coordinator.
3. For equipment leases, require from the lessor a copy of MSDS and PADS associated with the equipment (such as MSDS for hazardous replenishable supplies or PADS for noise). Send a copy of the MSDS and PADS to the HazCom Coordinator.
4. Add this notice to all invitations for bid, requests for proposal, and other purchasing requests: "It is the responsibility of the successful bidder/offeror to comply with provisions of the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and Title 8, Chapter 61 of the Alaska Administrative Code, including sections pertaining to multi-employer workplaces."

CHAPTER 3 – WARNING LABELS

Every container of hazardous chemicals must be labeled with an appropriate hazard warning. The warning can be any type of message (words, pictures, symbols) as long as it describes the hazards of the chemical in the container. All labels have basic warnings. Some labels have more detail than others. See Appendix C for a sample label.

If you have questions about a hazardous chemical after reading the label, you can refer to the MSDS or contact the HazCom Coordinator. See Chapter 4 for MSDS information.

The Central Services Supervisor will make sure that no container of hazardous chemicals ordered by the court system is released for use in the court system unless it has a readable label with an appropriate hazard warning in English. Employees must be able to use this label and other materials such as an MSDS to stay informed.

A. BASIC WARNINGS

The basic warning label includes the chemical name, hazardous ingredients, and the name and address of the manufacturer. It also includes hazard warnings such as “keep this chemical away from flames” or “avoid skin contact.”

B. OTHER WARNINGS

The label may also include other warnings for:

1. First Aid. For example, the label may explain what to do if you accidentally splash a chemical in your eyes or on your skin.
2. Fire. The label may tell you how to put out an accidental fire.
3. Spills. The label may tell you how to handle spills of the chemical.
4. Handling and Storing. The label may list personal protective equipment such as gloves, goggles, or a respirator that you must use in order to handle the chemical safely. The label will also tell you if it is necessary to store the chemical in an area with extra ventilation or away from other chemicals.
5. Disposal. The label may give you instructions about how to properly dispose the chemical.

C. CHEMICAL INFORMATION

1. Every container of hazardous chemicals must be labeled, tagged, or marked with the following information:
 - a. name of the chemical
 - b. hazardous ingredients
 - c. hazard warnings

Signs, placards, process sheets, batch tickets, operating procedures, or other written materials may be used instead of labels for individual stationary containers as long as these methods say what containers they apply to and give the information required for a label. Labels and other types of warnings must be legible, in English, and prominently displayed on the container or easily available in the work area. Labels and warning forms must identify the chemical using the same name as the MSDS.

If the required information is not on the container when it is received, the Central Services Supervisor will put a proper label on it before releasing it and notify the HazCom Coordinator of the problem.

2. No label is required for portable containers of hazardous chemicals if
 - a. the chemicals were transferred from a properly labeled container and
 - b. the portable container will be used immediately by the employee who transferred the chemical. If the employee does not intend to use it immediately, information on the primary container must be put on the label of the new container.
3. Labels on incoming containers must not be removed or defaced.

CHAPTER 4 — MATERIAL SAFETY DATA SHEET (MSDS)

A material safety data sheet (MSDS) explains how to use, handle, and store a chemical safely. Not all MSDS look alike but they all have the same basic information listed in paragraph (2) below. Appendix D shows a sample MSDS for "ISOPROPYL ALCOHOL (IPA) 50%, 70%, 91% AND 99% IPA." Appendix D also has OSHA documents that explain different parts of an MSDS.

Chemical manufacturers and importers create an MSDS for every hazardous chemical they produce or import. They must provide a copy of the MSDS with the first shipment of the chemical, and again after any updates. If an MSDS is missing from the first shipment, we will follow-up with our supplier. We will keep a record of our follow-up, noting the name, date, and phone number of the contact person until the request is fulfilled. If the MSDS is not submitted, we will contact OSHA.

A. MSDS REQUESTS

Employees have the right to know about the hazards of the chemicals they could be exposed to at work. We will make this information readily accessible during every work shift to all employees who could be exposed. We will post a list of every hazardous chemical or product that employees may be exposed to, with instructions about how to find a copy of the MSDS online. The HazCom Coordinator will keep a master file of MSDS for every chemical used or stored by the court system in the Administrative Office in Anchorage. Employees can access an MSDS from our INTRANet or by contacting the HazCom Coordinator.

If an MSDS for a hazardous chemical or product is requested but is not available, the supervisor of the employee who made the request will take steps to make sure the employee is not exposed to that chemical or product until a copy of the MSDS is available.

B. MSDS REQUIREMENTS

Every MSDS must be in English and include the following:

1. The product name and information listed in paragraphs (a) through (c) below.
 - a. If the hazardous chemical is a single substance, its chemical and common names;
 - b. If the hazardous chemical is a mixture that has been tested as a whole to determine its hazards, the chemical and common names of the ingredients which contribute to these known hazards, and the common names of the mixture itself; or,
 - c. If the hazardous chemical is a mixture that has not been tested as a whole,
 - i. The chemical and common names of all ingredients which have been determined to be health hazards, and which comprise one percent or greater of the composition.
 - ii. The chemical and common names of all ingredients which have been determined to present a physical hazard when present in the mixture.
2. Physical and chemical characteristics.

3. The physical hazards, including the potential for fire, explosion, and reactivity. (See Physical Hazard Definitions, Appendix B.)
4. The health hazards, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure. (See Health Hazard Definitions, Appendix B.)
5. The primary routes of entry.
6. The Alaska Occupational Safety and Health (AKOSH) permissible exposure limit, American Conference of Industrial Hygienists (ACGIH) threshold limit value, and any other exposure limit used or recommended by the manufacturer or importer.
7. Whether the hazardous chemical is listed in the National Toxicology Program (NTP) or has been found to be a potential carcinogen by the International Agency for Research on Cancer (IARC) or by OSHA.
8. Any generally applicable precautions for safe handling and use which are known to the manufacturer, importer, or employer preparing the MSDS, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for cleanup of spills and leaks.
9. All generally applicable control measures.
10. Emergency and first aid procedures.
11. The date of preparation of the material safety data sheet.
12. The name, address, and telephone number of the party responsible for the MSDS. This person can provide additional information on the hazardous chemical and appropriate emergency procedures.

CHAPTER 5 — PHYSICAL AGENT DATA SHEETS (PADS)

A. BASIC INFORMATION

The PADS has an identical role as a MSDS in the HazCom Program, but focuses on different types of hazards. The hazards that PADS pertains to are excessive heat stress, cold stress, hand-arm vibration, ionizing radiation, noise, lasers, and radiation from radio frequencies or microwaves. A PADS is required to be maintained for each physical agent within the workplace. However, if it is more appropriate to address an entire process rather than individual agents, the PADS will be designed in such a manner.

PADS give basic information, methods of prevention, and permissible exposure limits. Each PADS varies in design, but all contain the same basic information. A sample PADS for noise is located in Appendix E.

At this time noise is the only physical agent suspected to be within the court system. The Printshop is currently the only place where this agent is suspected to be. Printshop employees are provided with ear protection to reduce this risk.

B. PADS REQUESTS

Employees have the right to know the hazards of the physical agents they could be exposed to at work. We will make this information readily accessible during each work shift to all employees who could be exposed. We will post a list of every physical agent that employees may be exposed to, with instructions on how to find a copy of the PADS online. The HazCom Coordinator will keep a master file of PADS for every physical agent in the court system in the Administrative Office in Anchorage. Employees can access a PADS from our INTRANet or by contacting the HazCom Coordinator.

If a PADS is requested but is not available, the supervisor of the employee who made the request will take steps to make sure the employee is not exposed to that physical agent until a copy of the PADS is available.

C. PADS REQUIREMENTS

1. Each PADS must be in English and include:
 - a. The name of the physical agent;
 - b. A description;
 - c. The health hazards, including symptoms of exposure, and any medical conditions known to be aggravated by exposure;
 - d. The permissible exposure limits established by regulation or ACGIH threshold limit value;
 - e. Whether it is, or has the potential of being carcinogenic;
 - f. Any general control measures such as work practices or protective equipment;
 - g. Emergency or first aid procedures;
 - h. The date of preparation or last change to the PADS;
 - i. The contact information of the preparer and distributor of the PADS;

CHAPTER 6 — TRAINING

A. INITIAL TRAINING AND NEW HAZARDS

Federal law requires that employees handling or possibly exposed to hazardous chemicals or physical agents be informed about hazardous chemicals in the workplace through labeling, material safety data sheets (MSDS's), and training. (Office workers who encounter hazardous chemicals only in isolated instances are not required to comply with this rule.²) Training will include:

1. Detecting chemicals in the workplace;
2. Protective measures that can be taken;
3. Recognizing physical and health hazards of chemicals;
4. Physical agents (if potentially exposed); and
5. The location and availability of the written HazCom Program, MSDS, PADS, and the list of hazardous chemicals.

More training will be provided as new categories of hazards are introduced.

B. SUPPLEMENTAL TRAINING

1. Court Supply will receive training on the Alaska Court System's labeling system and storage of products containing hazardous chemicals.
2. Information Services, Micrographics, and the Printshop will receive training on the additional hazards, if any, in their areas including specific procedures (such as work practices, emergency procedures, and personal protective equipment).

C. POSTING REQUIREMENTS

1. In or near any workplace where an employee may be exposed to one or more hazardous substance or physical agent, a poster with the provisions of AS 18.60.065 – 18.60068 will be posted. If an area meeting this description is missing of these posters, contact the HAZCOM coordinator.
2. A list will be posted of the product or chemical name of each hazardous substance, together with an instruction sheet explaining how an employee may access the digital MSDS.

D. CONTRACTOR INFORMATION

The Facilities Manager and the Purchasing Agent are responsible for informing contractor employers about chemical hazards they may be exposed to while working at the court system, and for providing suggestions about appropriate protective measures. All invitations for bid, requests for proposals, and other purchasing requests issued to prospective contractors should include a notice that it is the contractor's responsibility to comply with the provisions of the federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and Title 8, subchapter 61 of the Alaska Administrative Code, including sections pertaining to multi-employer workplaces. Contractors will be required to submit an MSDS for any hazardous product that employees of the court system could be exposed to. These MSDS should be submitted to the department the contractor is in contact with regarding the project and to the HazCom Coordinator.

² Covered "employee" is defined in 29 C.F.R. § 1910.1200(c). On 11/15/2013, David Guinn, industrial hygienist at the Occ. Safety and Health Section of the Alaska Dept. of Labor and Workforce Dev., Labor Stds. and Safety, confirmed this interpretation of the rule as permissible.

CHAPTER 7 — HAZARDOUS CHEMICAL LISTS

This list must be posted at each workplace

A master list of all hazardous chemical products found in the Alaska Court system has been compiled and is listed by product name on the attached sheets. Your court location may contain one, several, or all of these products. Further information on each noted chemical can be obtained by reviewing the material safety data sheet (MSDS).

This hazardous chemical list is part of the Alaska Court System's HazCom Program. A copy of the complete written program is located on the court system's server and can be reviewed at any time.

A master file of MSDS is maintained by the HazCom Coordinator in the Anchorage Administrative Office. If you need more information on any of the products listed, a MSDS can be obtained from the server, or by contacting the HazCom Coordinator.

NOTE: The Alaska Court System has determined that by following the manufacturer's recommended usage of these products, there is minimal risk of physical or health hazards from the chemicals. If an employee is going to use these chemicals in any way other than that recommended by the manufacturer, please contact the HazCom Coordinator before proceeding.

Although other products containing potentially hazardous chemicals may be found in an area (such as Formula 409, air freshener, dish soap, hand soap, etc.), the OSHA regulation does not apply when these products are used in the workplace in the same way that consumers would use them.

Hazardous Chemicals

3M(TM) Desk and Office Cleaner 573
Compressed Gas Dusters (EXP 31301)
Ethanol, CDA-19 190 Proof Completely Denatured Alcohol
Isopropyl Alcohol (IPA) 50%, 70%, 91% AND 99% IPA
TB-CIDE Quat
WD-40 Aerosol
Xerox Lens & Mirror Cleaner (43P81)

NOTE: In addition to the above chemical list, Information Services, the Printshop, and Micrographics must also post the following chemical list specific to their operation.

Appendices

Information Services

GC Acrylic Plastic
Humco Denatured Alcohol
Buckeye Workout
Texwipe -- Static Stopper Aerosol
KILZ® Original

Micrographics

Kodak Fixer Wash System Cleaner
Kodak Liquid Developer System
Kodak Prostar Plus Developer
Kodak Prostar Plus Fixer

Printshop

Water Miscible Wash
Electrostatic Black Ink
Fountain Solution
La-Co Zoom Spout Oiler
Glatfelter Fan-Apart Adhesive
Crown Chain Lube Oil
Xerox Film Remover
Humco Denatured Alcohol
Bon Ami Powdered Cleanser
Pro 10 Cylinder Cleaner
Electrostatic Developer
Electrostatic Plates
Print Shop Noise - PADS

APPENDIX A
HAZARD COMMUNICATION STANDARD – Federal and State Law

FEDERAL LAW

Code of Federal Regulations

Title 29. Labor

Subtitle B. Regulations Relating to Labor

Chapter XVII. Occupational Safety and Health Administration, Department of Labor

Part 1910. Occupational Safety and Health Standards (Refs & Annos)

Subpart Z. Toxic and Hazardous Substances (Refs & Annos)

29 C.F.R. § 1910.1200

§ 1910.1200 Hazard communication.

(a) Purpose.

(1) The purpose of this section is to ensure that the hazards of all chemicals produced or imported are classified, and that information concerning the classified hazards is transmitted to employers and employees. The requirements of this section are intended to be consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Revision 3. The transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, safety data sheets and employee training.

(2) This occupational safety and health standard is intended to address comprehensively the issue of classifying the potential hazards of chemicals, and communicating information concerning hazards and appropriate protective measures to employees, and to preempt any legislative or regulatory enactments of a state, or political subdivision of a state, pertaining to this subject. Classifying the potential hazards of chemicals and communicating information concerning hazards and appropriate protective measures to employees, may include, for example, but is not limited to, provisions for: developing and maintaining a written hazard communication program for the workplace, including lists of hazardous chemicals present; labeling of containers of chemicals in the workplace, as well as of containers of chemicals being shipped to other workplaces; preparation and distribution of safety data sheets to employees and downstream employers; and development and implementation of employee training programs regarding hazards of chemicals and protective measures. Under section 18 of the Act, no state or political subdivision of a state may adopt or enforce any requirement relating to the issue addressed by this Federal standard, except pursuant to a Federally-approved state plan.

(b) Scope and application.

(1) This section requires chemical manufacturers or importers to classify the hazards of chemicals which they produce or import, and all employers to provide information to their employees about the hazardous chemicals to which they are exposed, by means of a hazard communication program, labels and other forms of warning, safety data sheets, and information and training. In addition, this section requires distributors to transmit the required information to employers. (Employers who do not produce or import chemicals need only focus on those parts of this rule that deal with establishing a workplace program

and communicating information to their workers.)

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

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

(i) Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced;

(ii) Employers shall maintain any safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible during each workshift to laboratory employees when they are in their work areas;

(iii) Employers shall ensure that laboratory employees are provided information and training in accordance with paragraph (h) of this section, except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section; and,

(iv) Laboratory employers that ship hazardous chemicals are considered to be either a chemical manufacturer or a distributor under this rule, and thus must ensure that any containers of hazardous chemicals leaving the laboratory are labeled in accordance with paragraph (f) of this section, and that a safety data sheet is provided to distributors and other employers in accordance with paragraphs (g)(6) and (g)(7) of this section.

(4) In work operations where employees only handle chemicals in sealed containers which are not opened under normal conditions of use (such as are found in marine cargo handling, warehousing, or retail sales), this section applies to these operations only as follows:

(i) Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced;

(ii) Employers shall maintain copies of an safety data sheets that are received with incoming shipments of the sealed containers of hazardous chemicals, shall obtain a safety data sheet as soon as possible for sealed containers of hazardous chemicals received without safety data sheet if an employee requests the safety data sheet, and shall ensure that the safety data sheets are readily accessible during each work shift to employees when they are in their work area(s); and,

(iii) Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.

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

(i) Any pesticide as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when subject to the labeling requirements of that

Act and labeling regulations issued under that Act by the Environmental Protection Agency;

(ii) Any chemical substance or mixture as such terms are defined in the Toxic Substances Control Act (15 U.S.C. 2601 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency.

(iii) Any food, food additive, color additive, drug, cosmetic, or medical or veterinary device or product, including materials intended for use as ingredients in such products (e.g. flavors and fragrances), as such terms are defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or the Virus–Serum–Toxin Act of 1913 (21 U.S.C. 151 et seq.), and regulations issued under those Acts, when they are subject to the labeling requirements under those Acts by either the Food and Drug Administration or the Department of Agriculture;

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

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

(vi) Agricultural or vegetable seed treated with pesticides and labeled in accordance with the Federal Seed Act (7 U.S.C. 1551 et seq.) and the labeling regulations issued under that Act by the Department of Agriculture.

(6) This section does not apply to:

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

(ii) Any hazardous substance as such term is defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601 et seq.) when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA in accordance with Environmental Protection Agency regulations.

(iii) Tobacco or tobacco products;

(iv) Wood or wood products, including lumber which will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility (wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut, generating dust, are not exempted);

- (v) Articles (as that term is defined in paragraph (c) of this section);
- (vi) Food or alcoholic beverages which are sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, or drinking place), and foods intended for personal consumption by employees while in the workplace;
- (vii) Any drug, as that term is defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), when it is in solid, final form for direct administration to the patient (e.g., tablets or pills); drugs which are packaged by the chemical manufacturer for sale to consumers in a retail establishment (e.g., over-the-counter drugs); and drugs intended for personal consumption by employees while in the workplace (e.g., first aid supplies);
- (viii) Cosmetics which are packaged for sale to consumers in a retail establishment, and cosmetics intended for personal consumption by employees while in the workplace;
- (ix) Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended;
- (x) Nuisance particulates where the chemical manufacturer or importer can establish that they do not pose any physical or health hazard covered under this section;
- (xi) Ionizing and nonionizing radiation; and,
- (xii) Biological hazards.

(c) Definitions.

Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Chemical means any substance, or mixture of substances.

Chemical manufacturer means an employer with a workplace where chemical(s) are produced for use or distribution.

Chemical name means the scientific designation of a chemical in accordance with the

nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

Classification means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

Commercial account means an arrangement whereby a retail distributor sells hazardous chemicals to an employer, generally in large quantities over time and/or at costs that are below the regular retail price.

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

Container means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

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

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

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

Employee means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Employer means a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

Exposure or exposed means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

Foreseeable emergency means any potential occurrence such as, but not limited to, equipment

failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

Hazard category means the division of criteria within each hazard class, e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.

Hazard class means the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

Hazard not otherwise classified (HNOC) means an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in this section, but the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

Hazard statement means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Hazardous chemical means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health hazard means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A to § 1910.1200—Health Hazard Criteria.

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

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

Label elements means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

Label means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

Mixture means a combination or a solution composed of two or more substances in which they

do not react.

Physical hazard means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. See Appendix B to § 1910.1200—Physical Hazard Criteria.

Pictogram means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

Precautionary statement means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

Produce means to manufacture, process, formulate, blend, extract, generate, emit, or repackage.

Product identifier means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

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

Responsible party means someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

Safety data sheet (SDS) means written or printed material concerning a hazardous chemical that is prepared in accordance with paragraph (g) of this section.

Signal word means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.

Simple asphyxiant means a substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

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

Substance means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product

and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Trade secret means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Appendix E to § 1910.1200—Definition of Trade Secret, sets out the criteria to be used in evaluating trade secrets.

Use means to package, handle, react, emit, extract, generate as a byproduct, or transfer.

Work area means a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace means an establishment, job site, or project, at one geographical location containing one or more work areas.

(d) Hazard classification.

(1) Chemical manufacturers and importers shall evaluate chemicals produced in their workplaces or imported by them to classify the chemicals in accordance with this section. For each chemical, the chemical manufacturer or importer shall determine the hazard classes, and, where appropriate, the category of each class that apply to the chemical being classified. Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the chemical manufacturer or importer for the chemical to satisfy this requirement.

(2) Chemical manufacturers, importers or employers classifying chemicals shall identify and consider the full range of available scientific literature and other evidence concerning the potential hazards. There is no requirement to test the chemical to determine how to classify its hazards. Appendix A to § 1910.1200 shall be consulted for classification of health hazards, and Appendix B to § 1910.1200 shall be consulted for the classification of physical hazards.

(3) Mixtures.

(i) Chemical manufacturers, importers, or employers evaluating chemicals shall follow the procedures described in Appendices A and B to § 1910.1200 to classify the hazards of the chemicals, including determinations regarding when mixtures of the classified chemicals are covered by this section.

(ii) When classifying mixtures they produce or import, chemical manufacturers and importers of mixtures may rely on the information provided on the current safety data sheets of the individual ingredients, except where the chemical manufacturer or importer knows, or in the exercise of reasonable diligence should know, that the safety data sheet misstates or omits information required by this section.

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

hazard communication purposes:

- (i) National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition);
- (ii) International Agency for Research on Cancer (IARC) Monographs (latest editions); or
- (iii) 29 CFR part 1910, subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration.

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

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

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

(ii) If a mixture has not been tested as a whole to determine whether the mixture is a health hazard, the mixture shall be assumed to present the same health hazards as do the components which comprise one percent (by weight or volume) or greater of the mixture, except that the mixture shall be assumed to present a carcinogenic hazard if it contains a component in concentrations of 0.1 percent or greater which is considered to be a carcinogen under paragraph (d)(4) of this section;

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

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

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

(e) Written hazard communication program.

(1) Employers shall develop, implement, and maintain at each workplace, a written hazard communication program which at least describes how the criteria specified in paragraphs

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

(i) A list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet (the list may be compiled for the workplace as a whole or for individual work areas); and,

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

(2) Multi-employer workplaces. Employers who produce, use, or store hazardous chemicals at a workplace in such a way that the employees of other employer(s) may be exposed (for example, employees of a construction contractor working on-site) shall additionally ensure that the hazard communication programs developed and implemented under this paragraph (e) include the following:

(i) The methods the employer will use to provide the other employer(s) on-site access to safety data sheets for each hazardous chemical the other employer(s)' employees may be exposed to while working;

(ii) The methods the employer will use to inform the other employer(s) of any precautionary measures that need to be taken to protect employees during the workplace's normal operating conditions and in foreseeable emergencies; and,

(iii) The methods the employer will use to inform the other employer(s) of the labeling system used in the workplace.

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

(4) The employer shall make the written hazard communication program available, upon request, to employees, their designated representatives, the Assistant Secretary and the Director, in accordance with the requirements of 29 CFR 1910.1020(e).

(5) Where employees must travel between workplaces during a workshift, i.e., their work is carried out at more than one geographical location, the written hazard communication program may be kept at the primary workplace facility.

(f) Labels and other forms of warning—

(1) Labels on shipped containers. The chemical manufacturer, importer, or distributor shall ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged, or marked. Hazards not otherwise classified do not have to be addressed on the container. Where the chemical manufacturer or importer is required to label, tag or mark the following information shall be provided:

(i) Product identifier;

(ii) Signal word;

(iii) Hazard statement(s);

(iv) Pictogram(s);

(v) Precautionary statement(s); and,

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

(2) The chemical manufacturer, importer, or distributor shall ensure that the information provided under paragraphs (f)(1)(i) through (v) of this section is in accordance with Appendix C to § 1910.1200, for each hazard class and associated hazard category for the hazardous chemical, prominently displayed, and in English (other languages may also be included if appropriate).

(3) The chemical manufacturer, importer, or distributor shall ensure that the information provided under paragraphs (f)(1)(ii) through (iv) of this section is located together on the label, tag, or mark.

(4) Solid materials.

(i) For solid metal (such as a steel beam or a metal casting), solid wood, or plastic items that are not exempted as articles due to their downstream use, or shipments of whole grain, the required label may be transmitted to the customer at the time of the initial shipment, and need not be included with subsequent shipments to the same employer unless the information on the label changes;

(ii) The label may be transmitted with the initial shipment itself, or with the safety data sheet that is to be provided prior to or at the time of the first shipment; and,

(iii) This exception to requiring labels on every container of hazardous chemicals is only for the solid material itself, and does not apply to hazardous chemicals used in conjunction with, or known to be present with, the material and to which employees handling the items in transit may be exposed (for example, cutting fluids or pesticides in grains).

(5) Chemical manufacturers, importers, or distributors shall ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged, or marked in accordance with this section in a manner which does not conflict with the requirements of the Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.) and regulations issued under that Act by the Department of Transportation.

(6) Workplace labeling. Except as provided in paragraphs (f)(7) and (f)(8) of this section, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either:

(i) The information specified under paragraphs (f)(1)(i) through (v) of this section for labels on shipped containers; or,

(ii) Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

(7) The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information required by paragraph (f)(6) of this section to be on a label. The employer shall ensure the written materials are readily accessible to the employees in their work area throughout each work shift.

(8) The employer is not required to label portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer. For purposes of this section, drugs which are dispensed by a pharmacy to a health care provider for direct administration to a patient are exempted from labeling.

(9) The employer shall not remove or deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information.

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

(11) Chemical manufacturers, importers, distributors, or employers who become newly aware of any significant information regarding the hazards of a chemical shall revise the labels for the chemical within six months of becoming aware of the new information, and shall ensure that labels on containers of hazardous chemicals shipped after that time contain the new information. If the chemical is not currently produced or imported, the chemical manufacturer, importer, distributor, or employer shall add the information to the label before the chemical is shipped or introduced into the workplace again.

(g) Safety data sheets.

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

(2) The chemical manufacturer or importer preparing the safety data sheet shall ensure that it is in English (although the employer may maintain copies in other languages as well), and includes at least the following section numbers and headings, and associated information under each heading, in the order listed (See Appendix D to § 1910.1200—Safety Data Sheets, for the specific content of each section of the safety data sheet):

(i) Section 1, Identification;

(ii) Section 2, Hazard(s) identification;

(iii) Section 3, Composition/information on ingredients;

(iv) Section 4, First-aid measures;

(v) Section 5, Fire-fighting measures;

(vi) Section 6, Accidental release measures;

(vii) Section 7, Handling and storage;

(viii) Section 8, Exposure controls/personal protection;

(ix) Section 9, Physical and chemical properties;

(x) Section 10, Stability and reactivity;

(xi) Section 11, Toxicological information;

(xii) Section 12, Ecological information;

(xiii) Section 13, Disposal considerations;

(xiv) Section 14, Transport information;

(xv) Section 15, Regulatory information; and

(xvi) Section 16, Other information, including date of preparation or last revision.

Note 1 to paragraph (g)(2): To be consistent with the GHS, an SDS must also include the headings in paragraphs (g)(2)(xii) through (g)(2)(xv) in order.

Note 2 to paragraph (g)(2): OSHA will not be enforcing information requirements in sections 12

through 15, as these areas are not under its jurisdiction.

(3) If no relevant information is found for any sub-heading within a section on the safety data sheet, the chemical manufacturer, importer or employer preparing the safety data sheet shall mark it to indicate that no applicable information was found.

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

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

(6)(i) Chemical manufacturers or importers shall ensure that distributors and employers are provided an appropriate safety data sheet with their initial shipment, and with the first shipment after a safety data sheet is updated;

(ii) The chemical manufacturer or importer shall either provide safety data sheets with the shipped containers or send them to the distributor or employer prior to or at the time of the shipment;

(iii) If the safety data sheet is not provided with a shipment that has been labeled as a hazardous chemical, the distributor or employer shall obtain one from the chemical manufacturer or importer as soon as possible; and,

(iv) The chemical manufacturer or importer shall also provide distributors or employers with a safety data sheet upon request.

(7)(i) Distributors shall ensure that safety data sheets, and updated information, are provided to other distributors and employers with their initial shipment and with the first shipment after a safety data sheet is updated;

(ii) The distributor shall either provide safety data sheets with the shipped containers, or send them to the other distributor or employer prior to or at the time of the shipment;

(iii) Retail distributors selling hazardous chemicals to employers having a commercial account shall provide a safety data sheet to such employers upon request, and shall post a sign or otherwise inform them that a safety data sheet is available;

(iv) Wholesale distributors selling hazardous chemicals to employers over-the-counter may also provide safety data sheets upon the request of the employer at the time of the over-

the-counter purchase, and shall post a sign or otherwise inform such employers that a safety data sheet is available;

(v) If an employer without a commercial account purchases a hazardous chemical from a retail distributor not required to have safety data sheets on file (i.e., the retail distributor does not have commercial accounts and does not use the materials), the retail distributor shall provide the employer, upon request, with the name, address, and telephone number of the chemical manufacturer, importer, or distributor from which a safety data sheet can be obtained;

(vi) Wholesale distributors shall also provide safety data sheets to employers or other distributors upon request; and,

(vii) Chemical manufacturers, importers, and distributors need not provide safety data sheets to retail distributors that have informed them that the retail distributor does not sell the product to commercial accounts or open the sealed container to use it in their own workplaces.

(8) The employer shall maintain in the workplace copies of the required safety data sheets for each hazardous chemical, and shall ensure that they are readily accessible during each work shift to employees when they are in their work area(s). (Electronic access and other alternatives to maintaining paper copies of the safety data sheets are permitted as long as no barriers to immediate employee access in each workplace are created by such options.)

(9) Where employees must travel between workplaces during a workshift, i.e., their work is carried out at more than one geographical location, the safety data sheets may be kept at the primary workplace facility. In this situation, the employer shall ensure that employees can immediately obtain the required information in an emergency.

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

(11) Safety data sheets shall also be made readily available, upon request, to designated representatives, the Assistant Secretary, and the Director, in accordance with the requirements of § 1910.1020(e).

(h) Employee information and training.

(1) Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.

(2) Information. Employees shall be informed of:

(i) The requirements of this section;

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

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

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

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

(ii) The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area;

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

(iv) The details of the hazard communication program developed by the employer, including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer; the safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information.

(i) Trade secrets.

(1) The chemical manufacturer, importer, or employer may withhold the specific chemical identity, including the chemical name, other specific identification of a hazardous chemical, or the exact percentage (concentration) of the substance in a mixture, from the safety data sheet, provided that:

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

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

(iii) The safety data sheet indicates that the specific chemical identity and/or percentage of composition is being withheld as a trade secret; and,

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

(2) Where a treating physician or nurse determines that a medical emergency exists and

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

(3) In non-emergency situations, a chemical manufacturer, importer, or employer shall, upon request, disclose a specific chemical identity or percentage composition, otherwise permitted to be withheld under paragraph (i)(1) of this section, to a health professional (i.e. physician, industrial hygienist, toxicologist, epidemiologist, or occupational health nurse) providing medical or other occupational health services to exposed employee(s), and to employees or designated representatives, if:

(i) The request is in writing;

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

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

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

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

(D) To provide medical treatment to exposed employees;

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

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

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

(iii) The request explains in detail why the disclosure of the specific chemical identity or percentage composition is essential and that, in lieu thereof, the disclosure of the following information to the health professional, employee, or designated representative, would not satisfy the purposes described in paragraph (i)(3)(ii) of this section:

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

(v) The health professional, and the employer or contractor of the services of the health professional (i.e. downstream employer, labor organization, or individual employee), employee, or designated representative, agree in a written confidentiality agreement that

the health professional, employee, or designated representative, will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (i)(6) of this section, except as authorized by the terms of the agreement or by the chemical manufacturer, importer, or employer.

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

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

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

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

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

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

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

(i) Be provided to the health professional, employee, or designated representative, within thirty days of the request;

(ii) Be in writing;

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

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

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

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

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

(i) The chemical manufacturer, importer, or employer has supported the claim that the

specific chemical identity or percentage composition is a trade secret;

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

(iii) The health professional, employee or designated representative has demonstrated adequate means to protect the confidentiality.

(10)(i) If OSHA determines that the specific chemical identity or percentage composition requested under paragraph (i)(3) of this section is not a "bona fide" trade secret, or that it is a trade secret, but the requesting health professional, employee, or designated representative has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means to protect the confidentiality of the information, the chemical manufacturer, importer, or employer will be subject to citation by OSHA.

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

(11) If a citation for a failure to release trade secret information is contested by the chemical manufacturer, importer, or employer, the matter will be adjudicated before the Occupational Safety and Health Review Commission in accordance with the Act's enforcement scheme and the applicable Commission rules of procedure. In accordance with the Commission rules, when a chemical manufacturer, importer, or employer continues to withhold the information during the contest, the Administrative Law Judge may review the citation and supporting documentation "in camera" or issue appropriate orders to protect the confidentiality of such matters.

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

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

(j) Effective dates.

(1) Employers shall train employees regarding the new label elements and safety data sheets format by January 1, 2013.

(2) Chemical manufacturers, importers, distributors, and employers shall be in compliance with all modified provisions of this section no later than June 1, 2015, except:

(i) After December 1, 2015, the distributor shall not ship containers labeled by the chemical manufacturer or importer unless the label has been modified to comply with paragraph (f)(1) of this section.

(ii) All employers shall, as necessary, update any alternative workplace labeling used under paragraph (f)(6) of this section, update the hazard communication program required by paragraph (h)(1), and provide any additional employee training in accordance with paragraph (h)(3) for newly identified physical or health hazards no later than June 1, 2016.

(3) Chemical manufacturers, importers, distributors, and employers may comply with either § 1910.1200 revised as of October 1, 2011, or the current version of this standard, or both during the transition period.

STATE LAW

Alaska Administrative Code Currentness

Title 8. Labor and Workforce Development

Part 4. Occupational Safety and Health Division

Chapter 61. Occupational Safety and Health

Article 11. Occupational Safety and Health Standards

8 AAC 61.1010

8 AAC 61.1010. Standards.

(a) Under AS 18.60.030, 29 C.F.R. 1904.0 - 1904.38 and 1904.40 - 1904.46, as amended, are occupational safety and health standards in this state, as revised in this section and except as provided in 8 AAC 61.1015.

(b) Under AS 18.60.030, 29 C.F.R. 1910.5(c) and (d), 1910.6, 1910.7, 1910.12, 1910.19 - 1910.1018, 1910.1020, and 1910.1025 - 1910.1450, as amended, are occupational safety and health standards in this state, as revised in this section and except as provided in 8 AAC 61.1020 - 8 AAC 61.1110.

(c) Under AS 18.60.030, 29 C.F.R. 1926.10 - 1926.29 and 1926.31 - 1926.1152, as amended, are occupational safety and health standards in this state, as revised in this section and except as provided in 8 AAC 61.1145 - 8 AAC 61.1170.

(d) Under AS 18.60.030, 29 C.F.R. 1928.21 - 1928.1027, as amended, are occupational safety and health standards in this state, as revised in this section.

(e) Unless the context in which a term is used clearly requires a different meaning, the following revisions are necessary to make requirements of the federal regulations listed in (a) - (d) of this section technically feasible in this state:

(1) all references to "Occupational Safety and Health Review Commission" are revised to read "Alaska Occupational Safety and Health Review Board";

(2) all references to "Assistant Secretary," "Director," and "OSHA Area Director" are revised to read "Director of Labor Standards and Safety";

(3) all references to "OSHA" are revised to read "Alaska Occupational Safety and Health (AKOSH)."

Alaska Administrative Code Currentness

Title 8. Labor and Workforce Development

Part 4. Occupational Safety and Health Division

Chapter 61. Occupational Safety and Health

Article 11. Occupational Safety and Health Standards

8 AAC 61.1110

8 AAC 61.1110. Additional hazard communication standards.

(a) In addition to the requirements set out in 29 C.F.R. 1910.1200, as amended, an employer shall have a physical agent data sheet for each physical agent present in the employer's workplace.

(b) Each physical agent data sheet must be in English and must contain at least the following information:

(1) the name of the physical agent;

(2) a description of the physical agent;

(3) the health hazards of the physical agent, including signs and symptoms of exposure, and any medical conditions that are generally recognized as being aggravated by exposure to the physical agent;

(4) the permissible exposure limit established by these regulations or American Conference of Governmental Industrial Hygienists threshold limit value;

(5) whether the physical agent is a carcinogen or a potential carcinogen;

(6) any generally applicable precautions or safety procedures;

(7) any generally applicable control measures such as appropriate engineering controls, work practices, or personal protective equipment;

(8) appropriate emergency or first aid procedures related to exposure to the physical agent;

(9) the date of preparation of the physical agent data sheet or the date of the last change to the sheet;

(10) the name, address, and telephone number of the person responsible for the preparation and distribution of the physical agent data sheet.

(c) Physical agent data sheets may be kept in any form, including in a manual of operating procedures, and may be designed to cover groups of physical agents in a work area where it may be more appropriate to address the hazards of an entire process rather than of individual physical agents. The physical agent data sheets must be readily accessible during each work shift to employees at their work areas.

(d) Upon an employee's request, an employer must provide a copy of the most recent physical agent data sheet, or equivalent written information for a physical agent to which the employee may be exposed. If the copy or information requested by the employee under this subsection is

not made available, the employer shall take measures to assure that employees are not exposed to the physical agent to which the copy or information pertains until the copy or information is made available to the employee. This subsection does not alter, deny, or abrogate any legal right an employee may have to refuse to work under hazardous circumstances.

(e) Upon request of the employee, the designated representative of the employee or the commissioner, the employer must readily make available to the representative or the department physical agent data sheets, in the same manner that records must be made available under AS 18.60.067.

(f) An employer must comply with the following posting, information, and training requirements:

(1) a poster that contains the provisions of AS 18.60.065 - 18.60.068 must be displayed at the work site; poster meeting this requirement is available from the department but an employer may use any poster that meets this requirement;

(2) material safety data sheets, physical agent data sheets, or equivalent information for each toxic or hazardous substance and physical agent to which an employee may be exposed in the work place must be posted;

(3) instead of posting the information required under (2) of this subsection, an employer may post a list of the chemical name and product name of each toxic or hazardous substance and physical agent to which an employee may be exposed in the workplace, together with an identification of a location, in or near the workplace and accessible to employees, where an employee may inspect the material safety data sheets, physical agent data sheets or equivalent information at any time during the work shift;

(4) an employer must provide employees with information and training on physical agents in their work area at the time of their initial assignment and whenever a new physical agent is introduced into their work area.

(g) In this section,

(1) "physical agent" means heat stress, cold stress, hand-arm (segmental) vibration, ionizing radiation, lasers, noise, radio frequency and microwave radiation, or ultraviolet radiation which exceeds the threshold established in the 1995 - 1996 edition of "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices in the Work Environment" published by the American Conference of Governmental Industrial Hygienists (ACGIH);

(2) "physical agent data sheet" means written or printed material concerning a physical agent that is prepared in accordance with (b) of this section.

APPENDIX B

PHYSICAL AND HEALTH HAZARD DEFINITIONS

A chemical is a physical hazard if it is classified as posing one of the following hazardous properties: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or when in contact with water emits flammable gas.

- A. An explosive chemical is a solid or liquid chemical which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings.
- B. Flammable gas means a gas having a flammable range with air at 20 °C (68 °F) and a standard pressure of 101.3 kPa (14.7 psi). Aerosols are flammable if they contain greater than 1% of any component which is classified as flammable. Flammable liquid means a liquid having a flash point of not more than 93 °C (199.4 °F). Flammable solid means a solid which is a readily combustible solid, or which may cause or contribute to fire through friction.
- C. Oxidizer means any gas, solid, or liquid which, is not necessarily combustible itself, but may by yielding oxygen, cause, or contribute to, the combustion of other material.
- D. A self-reactive chemical is regarded as possessing explosive properties when in laboratory testing the formulation is liable to detonate, to burn rapidly or to show a violent effect when heated under confinement.
- E. Pyrophoric means a liquid or solid which, even in small quantities, is liable to ignite within five minutes after coming into contact with air.
- F. A self-heating chemical is a solid or liquid chemical, other than a pyrophoric liquid or solid, which, by reaction with air and without energy supply, is liable to self-heat; this chemical differs from a pyrophoric liquid or solid in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days).
- G. Organic peroxide means a liquid or solid organic chemical that is considered a derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals. Such chemicals are liable to be explosive, sensitive to impact or friction, and react dangerously with other substances.
- H. A chemical which is corrosive to metals means a chemical which by chemical action will materially damage, or even destroy, metals.
- I. Gases under pressure are gases which are contained in a receptacle at a pressure of 200 kPa (29 psi) or more, or which are liquefied or liquefied and refrigerated.
- J. Chemicals which, in contact with water, emit flammable gases are solid or liquid chemicals which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities

A chemical is a health hazard if it is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.

- A. Acute toxicity refers to those adverse effects occurring following oral or dermal administration of a single dose of a substance, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours.
- B. Skin corrosion is the production of irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following the application of a test substance for up to 4 hours. Corrosive reactions are typified by ulcers, bleeding, bloody scabs,
- C. Skin irritation is the production of reversible damage to the skin following the application of a test substance for up to 4 hours.
- D. Serious eye damage is the production of tissue damage in the eye, or serious physical decay of vision, following application of a test substance to the anterior surface of the eye, which is not fully reversible within 21 days of application.
- E. Eye irritation is the production of changes in the eye following the application of test substance to the anterior surface of the eye, which are fully reversible within 21 days of application.
- F. Respiratory sensitizer means a chemical that will lead to hypersensitivity of the airways following inhalation of the chemical.
- G. Skin sensitizer means a chemical that will lead to an allergic response following skin contact.
- H. The term mutagenic and mutagen will be used for agents giving rise to an increased occurrence of mutations in populations of cells and/or organisms. A mutation is defined as a permanent change in the amount or structure of the genetic material in a cell.
- I. Carcinogen means a substance or a mixture of substances which induce cancer or increase its incidence. Substances and mixtures which have induced benign and malignant tumors in well-performed experimental studies on animals are considered also to be presumed or suspected human carcinogens unless there is strong evidence that the mechanism of tumor formation is not relevant for humans.
- J. Reproductive toxicity includes adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on development of the offspring. Some reproductive toxic effects cannot be clearly assigned to either impairment of sexual function and fertility or to developmental toxicity. Nonetheless, chemicals with these effects shall be classified as reproductive toxicants.
- K. Specific target organ toxicity produces these adverse health effects by single or repeated exposure and include consistent and identifiable toxic effects in humans, or, in experimental animals, toxicologically significant changes which have affected the function or morphology of a tissue/organ, or have produced serious changes to the biochemistry or hematology of the organism and these changes are relevant for human health.
- L. Aspiration means the entry of a liquid or solid chemical directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory system

Physical agent means heat stress, cold stress, hand-arm (segmental) vibration, ionizing radiation, lasers, noise, radio frequency and microwave radiation, or ultraviolet radiation which exceeds the threshold established in the 1995 - 1996 edition of "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices in the Work

Environment" published by the American Conference of Governmental Industrial Hygienists (ACGIH);

Sources:

AS 8.61.1110, 29 C.F.R. § 1910.1200, App. A, and 29 C.F.R. § 1910.1200, App. B.

APPENDIX C
HOW TO READ SAFETY LABELS

SAMPLE LABEL

OSHA[®] QUICK CARD

Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). As of June 1, 2015, all labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more information:

OSHA[®] Occupational Safety and Health Administration

(800) 321-OSHA (6742) www.osha.gov

SAMPLE LABEL

<p> COSH _____ } Product Identifier Product Name _____ } </p> <p> Company Name _____ } Supplier Identification Street Address _____ } City _____ State _____ } Postal Code _____ Country _____ } Emergency Phone Number _____ } </p>	<p>Hazard Pictograms</p>  <p>Signal Word Danger</p> <p>Hazard Statements</p> <p>Highly flammable liquid and vapor. May cause liver and kidney damage.</p>
<p> Keep container tightly closed. Store in a cool, well-ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified. </p> <p>Precautionary Statements</p> <p>In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO₂) fire extinguisher to extinguish.</p> <p>First Aid If exposed call Poison Center. If on skin (or hair): Take off immediately any contaminated clothing. Wash skin with water.</p>	<p>Supplemental Information</p> <p>Directions for Use _____</p> <p>_____</p> <p>_____</p> <p>Net weight _____ Lot Number _____ Gross weight _____ Fill Date _____ Expiration Date _____</p>

OSHA 3492-02 2012

PICTOGRAMS EXPLAINED

OSHA[®] QUICK CARD[™]

Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

<p>Health Hazard</p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p>Flame</p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactive • Organic Peroxides 	<p>Exclamation Mark</p>  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none"> • Gases Under Pressure 	<p>Corrosion</p>  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	<p>Exploding Bomb</p>  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none"> • Oxidizers 	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p>Skull and Crossbones</p>  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

For more information:

OSHA[®] Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 349 1-02 2012

APPENDIX D
HOW TO READ MATERIAL SAFETY DATA SHEET (MSDS)

OSHA REFERENCE CARD

OSHA[®] QUICK CARD[™]

Hazard Communication Safety Data Sheets

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. As of June 1, 2015, the HCS will require new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

(Continued on other side)

For more information:

OSHA[®] Occupational
Safety and Health
Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 3493-02 2012

OSHA[®] QUICK CARD[™]

Hazard Communication Safety Data Sheets

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 16, Other information, includes the date of preparation or last revision.

*Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)).

Employers must ensure that SDSs are readily accessible to employees.

See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

For more information:



U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 3493-02-2012

SAMPLE MSDS



G L A T F E L T E R

Material Safety Data Sheet

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

MSDS Code: 3100-015W

Manufacturer Information

P. H. Glatfelter Company
Printing and Carbonless Papers Division
252 East 6th Street
Chillicothe, Ohio 45601

Phone: 740-772-3111

Emergency #: 800-424-9300 CHEMTREC®

Product Name: Fan-Apart Adhesive

Synonyms

Edge Padding Adhesive; Padding Compound; NEO-1

Product Use

Fan-Apart Adhesive for Carbonless Paper.

General Comments

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

Section 2 - HAZARDS IDENTIFICATION

Emergency Overview

- * CAUTION
- * Product is a milky white liquid with a balsam odor.
- * May cause eye irritation and skin irritation.
- * Inhalation of mist may cause respiratory tract irritation.

Potential Health Effects

Inhalation

This product is not an inhalation hazard under normal conditions of use. Inhalation of high concentration of vapors or mists may cause mild to moderate respiratory tract irritation.

Skin

Not a primary skin irritant based on animal data. Skin absorption is not expected to be a significant route of entry for this product. Prolonged or repeated skin exposure may cause dryness or dermatitis. Does not cause allergic skin sensitization based on animal data.

Eye

Any foreign material in the eye may cause slight irritation (e.g., redness and tearing). Not a primary eye irritant based on animal data.

Ingestion

Exposure by ingestion is not expected to occur through normal industrial use. Product is not harmful by ingestion based on animal data.

Material Safety Data Sheet**Product Name: Fan-Apart Adhesive****MSDS ID: 3100-015W****Medical Conditions Aggravated by Exposure**

Exposure may aggravate pre-existing skin, liver, and kidney disorders.

*****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS*****

CAS	Component	Percent
Not Available	Synthetic Polymer Mixture	20-45
57-55-6	Propylene Glycol	15-25
64-17-5	Ethanol, denatured	2-10

This material is a controlled product under Canadian WHMIS regulations.

*****Section 4 - FIRST AID MEASURES*******Inhalation**

If exposed to excessive levels of vapors or mists, remove to fresh air and get medical attention if other symptoms develop.

Skin

Wash skin with soap and flush thoroughly with plenty of water. Obtain medical attention if irritation develops, or other symptoms occur. Wash clothing before reuse.

Eyes

First check the victim for contact lenses and remove if present. Immediately flush eyes with plenty of water or normal saline for at least 15 minutes while holding eyelids open. If symptoms such as redness or irritation develop or persist, get immediate medical attention. Do not put any medication in the victim's eyes unless instructed by a physician.

Ingestion

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. If the victim is unconscious, keep airway open and lay the victim on his or her side with the head lower than the body.

Note to Physician

This product contains ingredients which may aggravate pre-existing skin, liver, and kidney disorders. The ethyl alcohol in this product has been denatured with methanol, treat affected person appropriately.

*****Section 5 - FIRE FIGHTING MEASURES*******General Fire Hazards**

Product will not sustain combustion if ignition source is removed, per ASTM D-4206 testing.

Hazardous Combustion Products

Hazardous combustion products include black smoke and toxic fumes of carbon dioxide and carbon monoxide.

Extinguishing Media

For fires involving this product, use an extinguisher which is appropriate for combustibles and surrounding classes of fires. Use carbon dioxide, dry chemical, alcohol foam, or waterspray when fighting fires involving this material. Water may be ineffective as an extinguishing agent, but water should be used to keep fire-exposed containers cool to prevent build-up and possible autoignition or explosion when exposed to extreme heat.

Fire Fighting Equipment/Instructions

Keep unnecessary people away; isolate hazard area and deny entry. Remove containers exposed to fire if possible, otherwise cool them from the side with water spray. Emergency equipment including self-contained breathing apparatus (SCBA) and full fire fighting turnout gear should be worn by fire fighters.

Material Safety Data Sheet

Product Name: Fan-Apart Adhesive

MSDS ID: 3100-015W

*****Section 6 - ACCIDENTAL RELEASE MEASURES*******Evacuation Procedures**

Close off area. Keep unnecessary personnel away.

Containment Procedures

Ventilate the contaminated area. Isolate the spill area.

Clean-up Procedures

Absorb small spills using inert material (e.g. newspaper, spill control pillows, absorbent particulate). Scoop up material for recovery or cover with inert absorbent material. Scoop up absorbed material and place in a container for disposal. In the event of a large spill, contain by diking with dry sand, sorbent booms, or other absorbent material. When cleaning spills, wear appropriate personal protective equipment including splash-proof safety goggles and chemical resistant gloves (see Section 8).

Special Procedures

None known.

*****Section 7 - HANDLING AND STORAGE*******Handling Procedures**

Use in a well-ventilated area Avoid breathing vapors or mists Avoid contact with eyes and prolonged contact with skin

Storage Procedures

Keep containers closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible materials (see Section 10). Avoid freezing or high temperatures that degrade adhesive quality.

*****Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION*******Exposure Guidelines**

Neither the American Conference of Governmental Industrial Hygienists or the provinces of Canada have developed exposure limits for this product. However, the following exposure guidelines exist for product ingredients.

Component Exposure Limits**Propylene Glycol (57-55-8)**

Ontario: 10 mg/m³ TWA (for assessing the visibility in a work environment where Propylene Glycol aerosol is present, aerosol only); 50 ppm TWA (aerosol and vapor); 155 mg/m³ TWA (aerosol and vapor)

Ethanol, denatured (64-17-5)

ACGIH: 1000 ppm STEL
 NIOSH: 1000 ppm TWA; 1900 mg/m³ TWA
 Alberta: 1000 ppm TWA; 1880 mg/m³ TWA
 British Columbia: 1000 ppm STEL
 Manitoba: 1000 ppm STEL
 New Brunswick: 1000 ppm TWA; 1880 mg/m³ TWA
 NW Territories: 1000 ppm TWA; 1884 mg/m³ TWA
 1250 ppm STEL; 2355 mg/m³ STEL
 Nova Scotia: 1000 ppm STEL

Material Safety Data Sheet**Product Name: Fan-Apart Adhesive****MSDS ID: 3100-015W**

Nunavut:	1000 ppm TWA; 1884 mg/m3 TWA 1250 ppm STEL; 2355 mg/m3 STEL
Ontario:	1000 ppm STEL
Quebec:	1000 ppm TWAEV; 1880 mg/m3 TWAEV
Saskatchewan:	1000 ppm TWA 1250 ppm STEL
Yukon:	1000 ppm TWA; 1900 mg/m3 TWA 1000 ppm STEL; 1900 mg/m3 STEL

Engineering Controls

No special ventilation requirements. Good room ventilation should be sufficient to control airborne levels. If ventilation is required, use local exhaust ventilation to keep airborne levels below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT**Eye / Face Protection**

Recommend use of safety glasses with side shields or goggles.

Skin Protection

Recommend the use of nitrile or rubber gloves to prevent skin contact. Customer is responsible for determining suitability of gloves for the work environment and other solvents or chemicals that the employee may normally be exposed to. Replace gloves at first signs of deterioration (hardening, cracking, softening or swelling). Depending on the operation, a labcoat, apron or other impermeable clothing may be appropriate. If adhesive contacts clothing, remove contaminated clothing and launder before reuse. (Dried latex is not easily removed from fabric. Immediate laundering is recommended before latex dries).

Respiratory Protection

Respiratory protection not normally required. If airborne contaminant levels may exceed recommended exposure limits, NIOSH approved respiratory protection appropriate for employee exposure levels is recommended. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.1 requirements must be followed whenever workplace conditions warrant a respirator's use.

*****Section 9 - PHYSICAL AND CHEMICAL PROPERTIES*****

Physical State:	Liquid	Appearance:	milky white liquid
Color:	milky white	Physical Form:	liquid
Odor:	balsam odor	Odor Threshold:	Not available
pH:	7.3-7.8	Melting Point:	Not available
Boiling Point:	208 °F (98 °C)	Decomposition:	Not available
Flash Point:	>208 °F (>97.8 °C) (Pensky-Martens Closed Cup)	Evaporation Rate:	Not available
Flammability Class:	Not Classified	LEL:	Not available
UEL:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	>1.0	Water Solubility:	dispersible
Coeff. Water/Oil Dist:	Not available	Auto Ignition:	Not available
Viscosity:	Not available	Volatility:	80-90 %
Sens. To Mech. Impact:	Not available	Sens. To Static Discharge:	Not available
Rate of Burning:	Not available		

*****Section 10 - STABILITY AND REACTIVITY*******Chemical Stability**

Product is stable under normal conditions of use. However, it may decompose at elevated temperatures.

Material Safety Data Sheet

Product Name: Fan-Apart Adhesive

MSDS ID: 3100-015W

Conditions to Avoid

Avoid heat, high temperatures, pressure, mechanical shock, incompatibles or other conditions that might result in a hazardous situation.

Incompatibilities

The ingredients of this product are incompatible with strong oxidizing agents. Ethyl alcohol is incompatible with peroxides, strong acids, acid chlorides, acid anhydrides, alkali metals, and ammonia.

Hazardous Decomposition

Hazardous Polymerization

Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Product Toxicity Data: >2 g/kg mg/kg dermal LD50 (rabbit)
Product Toxicity Data: >5 g/kg mg/kg oral LD50 (rat)

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Propylene Glycol (57-55-8)
Oral LD50 Rat 20000 mg/kg; Dermal LD50 Rabbit 20800 mg/kg
Ethanol, denatured (64-17-5)
Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h

Irritation / Corrosivity

Primary Skin Irritation Score: 0.17 (rabbit, maximum)
Primary Skin Irritation Index: 0.04
Based on test results this product would not be considered a dermal irritant.
Based on test results this product would not be considered an eye irritant.

Dermal Sensitizer

Based on a dermal sensitization study, this product was not found to be a dermal sensitizer.

Additional Information

This product contains ethyl alcohol that may be irritating to the eyes, nose, and respiratory system at very high vapor concentrations. Repeated ingestion of ethyl alcohol may result in liver damage. The ethyl alcohol in this product has been denatured with methyl alcohol. Methyl alcohol can be toxic by the oral, dermal or inhalation routes of exposure. Sub-lethal exposures have been shown to produce ocular damage that may result in blindness and central nervous system effects. Prolonged exposure to high levels of methyl alcohol vapor may cause burning of the eyes, gastrointestinal effects, vision failure, liver damage, dizziness, sleep disturbances, and death.

Carcinogenicity

No information available for the product.

Material Safety Data Sheet**Product Name: Fan-Apart Adhesive****MSDS ID: 3100-015W****Component Analysis****Ethanol, denatured (64-17-5)**

IARC: Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages) (Group 1 (carcinogenic to humans))

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Neurotoxicity

No information available for the product.

Mutagenicity

No information available for the product.

Teratogenicity

Ingestion of ethyl alcohol is responsible for fetal alcohol syndrome which includes a number of teratogenic results: spontaneous abortions, birth defects and developmental problems.

*****Section 12 - ECOLOGICAL INFORMATION*******Ecotoxicity**

No information is available on ecotoxicity of this product.

Component Analysis - Aquatic Toxicity**Propylene Glycol (57-55-6)**

Fish: 96 Hr LC50 Oncorhynchus mykiss: 51600 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 41 - 47 mL/L [static]; 96 Hr LC50 Pimephales promelas: 51400 mg/L [static]; 96 Hr LC50 Pimephales promelas: 710 mg/L

Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 19000 mg/L

Invertebrate: 24 Hr EC50 Daphnia magna: >10000 mg/L; 48 Hr EC50 Daphnia magna: >1000 mg/L [Static]

Ethanol, denatured (64-17-5)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]

Invertebrate: 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static]

Environmental Fate

No data available for this product.

*****Section 13 - DISPOSAL CONSIDERATIONS*******North American Waste Number and Descriptions**

Provincial jurisdictions use various hazardous waste control regulations and the Transportation of Dangerous Goods Act to define hazardous waste and appropriate packaging, reporting, storage and transport. The use, mixing or processing of this material may alter this product. Contact federal, provincial/state and local authorities in order to generate or ship a waste material associated with this product to ensure materials are handled appropriately and meet all criteria for disposal of hazardous waste.

Component Waste Numbers

No waste numbers are applicable for this product's components.

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Material Safety Data Sheet

Product Name: Fan-Apart Adhesive

MSDS ID: 3100-015W

*****Section 14 - TRANSPORT INFORMATION*******TDG Information**

Not a regulated hazardous material.

US DOT Information

Not a regulated hazardous material.

IATA Information

Not a regulated hazardous material.

IMDG Information

Not a regulated hazardous material.

*****Section 15 - REGULATORY INFORMATION*******General Product Information**

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Classification

Class D: Poisonous and Infectious Material
 Division 2: Materials Causing Other Toxic Effects
 Subdivision B: Toxic Materials

Component Analysis - Inventory

Component	CAS	CAN
Propylene Glycol	57-55-6	DSL
Ethanol, denatured	64-17-5	DSL

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List.

Propylene Glycol (57-55-6)

Minimum Concentration: 1 %

Ethanol, denatured (64-17-5)

Minimum Concentration: 0.1 %

*****Section 16 - OTHER INFORMATION*******Hazard Ratings**

[Refer to Section 2 for additional label information, including target organs.]

A hazard rating has not been developed by NFPA for this product. The hazard ratings included in this MSDS have been developed based on NFPA and HMIS criteria as well as professional judgment. This information is intended solely for the use of individuals trained in these hazard rating systems.

HMIS Ratings: Health: 1* Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings: Health: 1 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Label Information

CAUTION!

Material Safety Data Sheet

Product Name: Fan-Apart Adhesive

MSDS ID: 3100-015W

PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN DRYNESS OR DERMATITIS.

Do not puncture or incinerate container.
Keep container closed.
Use only with adequate ventilation.
Avoid breathing vapors or mists
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.

FIRST AID: If inhaled, remove the affected person to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel.

If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. If the victim is unconscious, keep airway open and lay the victim on his or her side with the head lower than the body.

In case of contact, immediately flush eyes or skin with plenty of water. If irritation develops, get medical attention. Clean contaminated clothing, before reuse, or dispose of properly.

For additional information, refer to the Material Safety Data Sheet (MSDS) for this product.

Key / Legend

ACGIH = American Conference of Governmental Industrial Hygienists. TLV = Threshold Limit Value. NIOSH = National Institute of Occupational Safety and Health. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NFPA = National Fire Protection Association. HMIS = Hazardous Material Information System. CFR = Code of Federal Regulations. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. SARA = Superfund Amendments and Reauthorization Act. HEPA = High Efficiency Particulate Air.

Preparation and Revision Information

Prepared by P.H. Glatfelter (Glatfelter), Printing and Carbonless Papers Division, Product Stewardship Center, 232 East 8th Street, Chillicothe, OH 45601.

The information and recommendations presented in this MSDS are provided in good faith, and are based on sources believed to be accurate. NO WARRANTIES OF USE OR OTHERWISE ARE EXPRESSLY MADE OR IMPLIED FROM THIS INFORMATION. The information provided relates to this specific material, and may not be valid for this material if used in combination with any other materials or in any process. It is the user's responsibility to determine the suitability of this information for his/her own particular purposes.

This is the end of MSDS # 3100-015W

DETAILED EXPLANATION OF MSDS

OSHA[®] BRIEF

Hazard Communication Standard: Safety Data Sheets

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012, requires that the chemical manufacturer, distributor, or importer provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for all hazardous chemicals to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English (although it may be in other languages as well). In addition, OSHA requires that SDS preparers provide specific minimum information as detailed in Appendix D of 29 CFR 1910.1200. The SDS preparers may also include additional information in various section(s).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., fire fighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

A description of all 16 sections of the SDS, along with their contents, is presented below:

Section 1: Identification

This section identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier. The required information consists of:

- Product identifier used on the label and any other common names or synonyms by which the substance is known.
- Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number.
- Recommended use of the chemical (e.g., a brief description of what it actually does, such as flame retardant) and any restrictions on use (including recommendations given by the supplier).

Section 2: Hazard(s) Identification

This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards. The required information consists of:

- The hazard classification of the chemical (e.g., flammable liquid, category¹).
- Signal word.
- Hazard statement(s).
- Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame).
- Precautionary statement(s).
- Description of any hazards not otherwise classified.

... (percentage) or the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section 3: Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

Substances

- Chemical name.
- Common name and synonyms.
- Chemical Abstracts Service (CAS) number and other unique identifiers.
- Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical.

Mixtures

- Same information required for substances.
- The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are:
 - Present above their cut-off/concentration limits or
 - Present a health risk below the cut-off/concentration limits.
- The concentration (exact percentages) of each ingredient must be specified except concentration ranges may be used in the following situations:
 - A trade secret claim is made,
 - There is batch-to-batch variation, or
 - The SDS is used for a group of substantially similar mixtures.

Chemicals where a trade secret is claimed

- A statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

¹ Chemical, as defined in the HCS, is any substance, or mixture of substances.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

- Necessary first-aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion).
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
- Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting fires caused by the chemical. The required information consists of:

- Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation.
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
- Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard. The required information may consist of recommendations for:

- Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing.
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
- Methods and materials used for containment (e.g., covering the drains and capping procedures).
- Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean up).

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited).
- Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements).

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of:

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.
- Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure).
- Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material).

Section 9: Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

- Appearance (physical state, color, etc.);
- Odor;
- Odor threshold;
- pH;
- Melting point/freezing point;
- Initial boiling point and boiling range;
- Flash point;
- Evaporation rate;
- Flammability (solid, gas);
- Upper/lower flammability or explosive limits;
- Vapor pressure;
- Vapor density;
- Relative density;
- Solubility(ies);
- Partition coefficient: n-octanol/water;
- Auto-ignition temperature;
- Decomposition temperature; and
- Viscosity.

The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties, such as the dust deflagration index (Kst) for combustible dust, used to evaluate a dust's explosive potential.

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of:

Reactivity

- Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available.

Chemical stability

- Indication of whether the chemical is stable or unstable under normal conditions and conditions while in storage and being handled.
- Description of any stabilizers that may be needed to maintain chemical stability.
- Indication of any safety issues that may arise should the product change in physical appearance.

Other

- Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur.
- List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions).
- List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation.
- List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating. (Hazardous combustion products should also be included in Section 5 (Fire-Fighting Measures) of the SDS.)

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available. The required information consists of:

- Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). The SDS should indicate if the information is unknown.
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure.
- The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose).
- Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure.
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA.

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment. The information may include:

- Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants).
- Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis.
- Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (K_{ow}) and the bioconcentration factor (BCF), where available.
- The potential for a substance to move from the soil to the groundwater (indicate results from adsorption studies or leaching studies).

ozone creation potential, endocrine disrupting potential, and/or global warming potential).

Section 13: Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations of appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities.

Section 14: Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number (i.e., four-figure identification number of the substance)².
- UN proper shipping name².
- Transport hazard class(es)².
- Packing group number, if applicable, based on the degree of hazard².
- Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)).
- Guidance on transport in bulk (according to Annex II of MARPOL 73/78³ and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code))).
- Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (indicate when information is not available).

² Found in the most recent edition of the UN Recommendations on the Transport of Dangerous Goods

³ MARPOL 73/78 means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended.

Section 15: Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

- Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations).

Section 16: Other Information

The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

Employer Responsibilities

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person(s) responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one.

References

OSHA, 29 CFR 1910.1200(g) and Appendix D.
United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009.
These references and other information related to the revised Hazard Communication

Standard can be found on OSHA's Hazard Communication Safety and Health Topics page, located at:
<http://www.osha.gov/dsg/hazcom/index.html>.

Disclaimer: This brief provides a general overview of the safety data sheet requirements in the Hazard Communication Standard (see 29 CFR 1910.1200(g) and Appendix D of 29 CFR 1910.1200). It does not alter or determine compliance responsibilities in the standard or the Occupational Safety and Health Act of 1970. Since interpretations and enforcement policy may change over time, the reader should consult current OSHA interpretations and decisions by the Occupational Safety and Health Review Commission and the courts for additional guidance on OSHA compliance requirements. Please note that states with OSHA-approved state plans may have additional requirements for chemical safety data sheets, outside of those outlined above. For more information on those standards, please visit:
<http://www.osha.gov/dcsp/osp/statestandards.html>.

This is one in a series of informational briefs highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

APPENDIX E

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Labor Standards and Safety Division

Physical Agent Data Sheet (PADS) - Noise

Other PADS:

[Cold Stress](#)
[Hand-Arm Vibration](#)
[Heat](#)
[Ionizing Radiation \(PDF\)](#)
[Lasers](#)
[Molds](#)
[Musculoskeletal](#)
[Ultraviolet Radiation](#)

[Description](#)
[Health Effects](#)
[Hearing](#)
[Other Effects](#)
[Permissible](#)
[Exposure Limit](#)
[Protective](#)

Description

Sound is created when a vibrating source (like a bell, motor or a stereo speaker) sends sound waves through the air to your ear. Every sound has two aspects: its pitch (frequency) and its loudness (intensity). On a stereo, frequency is determined by the bass/treble control. Intensity is determined by the volume control. Noise (unwanted sound) is usually made up of many frequencies. The disturbing and harmful effects of noise depend both on the loudness and the frequency of the tones making up noise.

Loudness is measured in units called decibels (dB). A conversational voice is about 65 dB. A shout is 90 dB or greater.

Frequency is measured in units called Hertz (Hz). The frequency of a locomotive horn is about 250 Hz. The frequency of a table saw is about 4,000 Hz.

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Health Effects

Excessive noise can destroy the ability to hear, and may also put stress of other parts of the body, including the heart.

For most effects of noise, there is no cure, so that prevention of excessive noise exposure is the only way to avoid health damage.

Hearing

The damage done by noise depends mainly on how loud it is and

on the length of exposure. The frequency or pitch can also have some effect, since high-pitched sounds are more damaging than low-pitched sounds.

Noise may tire out the inner ear, causing temporary hearing loss. After a period of time away from the noise hearing may be restored. Some workers who suffer temporary hearing loss may find that by the time their hearing returns to normal, it is time for another work shift so, in that sense, the problem is "permanent."

With continual noise exposure, the ear will lose its ability to become permanent. Permanent hearing loss results from the destruction of cells in the inner ear, cells which can never be replaced or repaired. Such damage can be caused by long-term exposure to loud noise or, in some cases" by brief exposures to very loud noises.

Normally, workplace noise first affects the ability to hear high frequency (high-pitched) sounds. This means that even though a person can still hear some noise, speech or other sounds may be unclear or distorted.

Workers suffering from noise-induced hearing loss may also experience continual ringing in their ears, called "tinnitus." At this time, there is no cure for tinnitus, although some doctors are experimenting with treatment.

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Other Effects

Although research on the effects of noise is not complete, it appears that noise can cause quickened pulse rate, increased blood pressure and a narrowing of the blood vessels over a long period of time, these may place an added burden on the heart.

Noise may also put stress on other parts of the body by causing the abnormal secretion of hormones and tensing of the muscles.

Workers exposed to noise sometimes complain of nervousness, sleeplessness and fatigue. Excessive noise exposure also can reduce job performance and may cause high rates of absenteeism.

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Permissible Exposure Limit

The Action level for noise is an average noise level of 85 dB for an eight-hour day. When employees are exposed to noise levels, which exceed the Permissible Exposure Limit, the employer must install or use engineering or administrative controls to lower the noise levels. While these controls are being designed or installed employees must wear hearing protection. If the controls still do not reduce noise exposures to below 90 dB, hearing protection must continue to be worn.

Protective Measures

Suitable hearing protectors (earplugs or muffs) must be made available at no cost to employees who are exposed to an average of 85 dB or greater for an eight-hour day. Employees must be given the opportunity to select from three different types of appropriate hearing protectors.

Hearing tests (audiometric exams) must be given to employees who are exposed to an average of 85 dB or greater for an eight-hour day. Hearing tests will show whether employees are experiencing any hearing losses. Hearing tests are also useful in showing how well the earplugs and earmuffs are working. Hearing tests must be given annually.

Employees should also receive training in the effects of noise on hearing, an explanation of the hearing tests, and instruction on the proper fitting and care of earplugs or muffs.

Noise away from work can also cause hearing loss. Hearing protectors should be worn when operating noisy equipment or tools such as chain saws, brush cutters, power lawn mowers, or when using firearms.

Refer to Alaska Administrative Code, Occupational Health and Environmental Control 04.0104 for specific regulations on Noise Exposure and Hearing Conservation Programs.