

# **GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)**

*Fourth revised edition*



**UNITED NATIONS**  
**New York and Geneva, 2011**

## CHAPTER 1.1

### PURPOSE, SCOPE AND APPLICATION OF THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS)

#### 1.1.1 Purpose

1.1.1.1 The use of chemicals to enhance and improve life is a widespread practice worldwide. But alongside the benefits of these products, there is also the potential for adverse effects to people or the environment. As a result, a number of countries or organizations have developed laws or regulations over the years that require information to be prepared and transmitted to those using chemicals, through labels or safety data sheets (SDS). Given the large number of chemicals available, individual regulation of all of them is simply not possible for any entity. Provision of information gives those using chemicals the identities and hazards of these chemicals, and allows the appropriate protective measures to be implemented in the local use settings.

1.1.1.2 While these existing laws or regulations are similar in many respects, their differences are significant enough to result in different labels or SDS for the same chemical in different countries. Through variations in definitions of hazards, a chemical may be considered flammable in one country, but not another. Or it may be considered to cause cancer in one country, but not another. Decisions on when or how to communicate hazards on a label or SDS thus vary around the world, and companies wishing to be involved in international trade must have large staffs of experts who can follow the changes in these laws and regulations and prepare different labels and SDS. In addition, given the complexity of developing and maintaining a comprehensive system for classifying and labelling chemicals, many countries have no system at all.

1.1.1.3 Given the reality of the extensive global trade in chemicals, and the need to develop national programs to ensure their safe use, transport, and disposal, it was recognized that an internationally-harmonized approach to classification and labelling would provide the foundation for such programs. Once countries have consistent and appropriate information on the chemicals they import or produce in their own countries, the infrastructure to control chemical exposures and protect people and the environment can be established in a comprehensive manner.

1.1.1.4 Thus the reasons for setting the objective of harmonization were many. It is anticipated that, when implemented, the GHS will:


- (a) enhance the protection of human health and the environment by providing an internationally comprehensible system for hazard communication;
- (b) provide a recognized framework for those countries without an existing system;
- (c) reduce the need for testing and evaluation of chemicals; and
- (d) facilitate international trade in chemicals whose hazards have been properly assessed and identified on an international basis.

1.1.1.5 The work began with examination of existing systems, and determination of the scope of the work. While many countries had some requirements, the following systems were deemed to be the "major" existing systems and were used as the primary basis for the elaboration of the GHS:

- (a) Requirements of systems in the United States of America for the workplace, consumers and pesticides;

- (b) Requirements of Canada for the workplace, consumers and pesticides;
- (c) European Union directives for classification and labelling of substances and preparations;
- (d) The United Nations Recommendations on the Transport of Dangerous Goods.

1.1.1.6 The requirements of other countries were also examined as the work developed, but the primary task was to find ways to adopt the best aspects of these existing systems and develop a harmonized approach. This work was done based on agreed principles of harmonization that were adopted early in the process:

- (a) the level of protection offered to workers, consumers, the general public and the environment should not be reduced as a result of harmonizing the classification and labelling systems;
- 
- (b) the hazard classification process refers principally to the hazards arising from the intrinsic properties of substances and mixtures, whether natural or synthetic<sup>1</sup>;
  - (c) harmonization means establishing a common and coherent basis for chemical hazard classification and communication, from which the appropriate elements relevant to means of transport, consumer, worker and environment protection can be selected;
  - (d) the scope of harmonization includes both hazard classification criteria and hazard communication tools, e.g. labelling and safety data sheets, taking into account especially the four existing systems identified in the ILO report<sup>2</sup>;
  - (e) changes in all these systems will be required to achieve a single globally harmonized system; transitional measures should be included in the process of moving to the new system;
  - (f) the involvement of concerned international organizations of employers, workers, consumers, and other relevant organizations in the process of harmonization should be ensured;
  - (g) the comprehension of chemical hazard information, by the target audience, e.g. workers, consumers and the general public should be addressed;
  - (h) validated data already generated for the classification of chemicals under the existing systems should be accepted when reclassifying these chemicals under the harmonized system;
  - (i) a new harmonized classification system may require adaptation of existing methods for testing of chemicals;
  - (j) in relation to chemical hazard communication, the safety and health of workers, consumers and the public in general, as well as the protection of the environment, should be ensured while protecting confidential business information, as prescribed by the competent authorities.

<sup>1</sup> In some cases it is necessary also to take into account hazards arising from other properties, such as the physical state of the substance or mixture (e.g. pressure and temperature) or properties of substances produced by certain chemical reactions (e.g. flammability of gases produced by contact with water).

<sup>2</sup> 1992 ILO Report on the size of the task of harmonizing existing systems of classification and labelling for hazardous chemicals.

### 1.1.3 Application of the GHS

#### 1.1.3.1 Harmonization of the application of the GHS

1.1.3.1.1 The goal of the GHS is to identify the intrinsic hazards found in substances and mixtures and to convey hazard information about these hazards. The criteria for hazard classification are harmonized. Hazard statements, symbols and signal words have been standardized and harmonized and now form an integrated hazard communication system. The GHS will allow the hazard communication elements of the existing systems to converge. Competent authorities will decide how to apply the various elements of the GHS based on the needs of the competent authority and the target audience. (See also Chapter 1.4, *Hazard Communication: Labelling*, (paragraph 1.4.10.5.4.2) and Annex 5 *Consumer Product Labelling Based on the Likelihood of Injury*).

1.1.3.1.2 For transport, it is expected that application of the GHS will be similar to application of current transport requirements. Containers of dangerous goods will be marked with pictograms that address acute toxicity, physical hazards, and environmental hazards. As is true for workers in other sectors, workers in the transport sector will be trained. The elements of the GHS that address such elements as signal words and hazard statements are not expected to be adopted in the transport sector.

1.1.3.1.3 In the workplace, it is expected that all of the GHS elements will be adopted, including labels that have the harmonized core information under the GHS, and safety data sheets. It is also anticipated that this will be supplemented by employee training to help ensure effective communication.

1.1.3.1.4 For the consumer sector, it is expected that labels will be the primary focus of GHS application. These labels will include the core elements of the GHS, subject to some sector-specific considerations in certain systems. (See also Chapter 1.4 *Hazard Communication: Labelling* (paragraph 1.4.10.5.4.2) and Annex 5 *Consumer Product Labelling Based on the Likelihood of Injury*).

#### 1.1.3.1.5 Building block approach

1.1.3.1.5.1 Consistent with the building block approach, countries are free to determine which of the *building blocks* will be applied in different parts of their systems. However, where a system covers something that is in the GHS, and implements the GHS, that coverage should be consistent. For example, if a system covers the carcinogenicity of a chemical, it should follow the harmonized classification scheme and the harmonized label elements.

1.1.3.1.5.2 In examining the requirements of existing systems, it was noted that coverage of hazards may vary by the perceived needs of the target audience for information. In particular, the transport sector focuses on acute health effects and physical hazards, but has not to date covered chronic effects due to the types of exposures expected to be encountered in that setting. But there may be other differences as well, with countries choosing not to cover all of the effects addressed by the GHS in each use setting.

1.1.3.1.5.3 The harmonized elements of the GHS may thus be seen as a collection of building blocks from which to form a regulatory approach. While the full range is available to everyone, and should be used if a country or organization chooses to cover a certain effect when it adopts the GHS, the full range does not have to be adopted. While physical hazards are important in the workplace and transport sectors, consumers may not need to know some of the specific physical hazards in the type of use they have for a product. As long as the hazards covered by a sector or system are covered consistently with the GHS criteria and requirements, it will be considered appropriate implementation of the GHS. Notwithstanding the fact that an exporter needs to comply with importing countries' requirements for GHS implementation, it is hoped that the application of the GHS worldwide will eventually lead to a fully harmonized situation.

#### 1.1.3.1.5.4 Guidance on the interpretation of the building block approach

(a) Hazard classes are building blocks:

Within their jurisdiction and keeping in mind the goal of full harmonization as well as international conventions, competent authorities may decide which hazard classes they apply;

(b) Within a hazard class, each hazard category can be seen as a building block:

For a given hazard class, competent authorities have the possibility not to apply all categories. Nevertheless, in order to preserve consistency, some restrictions to this principle should be set, as follows:

- (i) The classification criteria such as the cut-off values or concentration limits for adopted hazard categories should not be altered. However, adjacent sub-categories (e.g. carcinogenicity Categories 1A and 1B) may be merged into one category. Nevertheless, adjacent hazard categories should not be merged if it results in renumbering the remaining hazard categories. Furthermore, where sub-categories are merged, the names or numbers of the original GHS sub-categories should be retained (e.g. carcinogenicity Category 1 or 1A/B) to facilitate hazard communication;
- (ii) Where a competent authority adopts a hazard category, it should also adopt all the categories for higher hazard levels in that class. As a consequence, when a competent authority adopts a hazard class, it will always adopt at least the highest hazard category (Category 1), and, where more than one hazard category is adopted, these hazard categories will form an unbroken sequence.

*NOTE 1: Some hazard classes contain additional categories that can be considered on a stand alone basis, for example, Category 3 "transient target organ effects" for the hazard class "Specific target organ toxicity" (Chapter 3.8), and hazard category "Effects on or via lactation" for the hazard class "reproductive toxicity" (Chapter 3.7).*

*NOTE 2: It is noted, however, that the goal of the GHS is to achieve worldwide harmonization (see 1.1.2.3). Therefore, while differences between sectors may persist, the use of an identical set of categories at a worldwide level within each sector should be encouraged.*

#### 1.1.3.2 Implementation and maintenance of the GHS

1.1.3.2.1 For the purposes of implementing the GHS, the United Nations Economic and Social Council (ECOSOC) reconfigured the UN Committee of Experts on the Transport of Dangerous Goods by resolution 1999/65 of 26 October 1999. The new Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicals (UNCETDG/GHS), maintains its Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCETDG) and a new subsidiary body, the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals (UNSCEGHS), has been created. The UNSCEGHS has the following functions:

- (a) To act as custodian of the GHS, managing and giving direction to the harmonization process;
- (b) To keep the GHS system up-to-date as necessary, considering the need to introduce changes, ensure its continued relevance and practical utility, and determining the need for and timing of the updating of technical criteria, working with existing bodies as appropriate;

- (c) To promote understanding and use of the GHS and to encourage feedback;
- (d) To make the GHS available for worldwide use and application;
- (e) To make guidance available on the application of the GHS, and on the interpretation and use of technical criteria to support consistency of application; and
- (f) To prepare work programmes and submit recommendations to the committee.

1.1.3.2.2 The UNSCEGHS and the UNSCETDG, both operate under the parent committee with responsibility for these two areas. The Committee is responsible for strategic issues rather than technical issues. It is not envisaged that it would review, change or revisit technical recommendations of the sub-committees. Accordingly, its main functions are:

- (a) To approve the work programmes for the sub-committees in the light of available resources;
- (b) To coordinate strategic and policy directions in areas of shared interests and overlap;
- (c) To give formal endorsement to the recommendations of the sub-committees and provide the mechanism for channelling these to ECOSOC; and
- (d) To facilitate and coordinate the smooth running of the sub-committees.

#### 1.1.4 The GHS document

1.1.4.1 This document describes the GHS. It contains harmonized classification criteria and hazard communication elements. In addition, guidance is included in the document to assist countries and organizations in the development of tools for implementation of the GHS. The GHS is designed to permit self-classification. The provisions for implementation of the GHS allow the uniform development of national policies, while remaining flexible enough to accommodate any special requirements that might have to be met. Furthermore, the GHS is intended to create user-friendly approach, to facilitate the work of enforcement bodies and to reduce the administrative burden.

1.1.4.2 While this document provides the primary basis for the description of the GHS, it is anticipated that technical assistance tools will be made available as well to assist and promote implementation.

## Annex 4

### GUIDANCE ON THE PREPARATION OF SAFETY DATA SHEETS (SDS)

#### A4.1 Introduction

A4.1.1 This annex provides guidance on the preparation of an SDS under the requirements of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). SDS's are an important element of hazard communication in the GHS, as explained in Chapter 1.5. Use of this guidance document should support compliance with competent authority (CA) requirements and should allow the SDS to be prepared in accordance with the GHS.

A4.1.2 The use of this guidance document is dependent on importing countries requirements for SDS. It is hoped that the application of the GHS worldwide will eventually lead to a fully harmonized situation.

A4.1.3 Unless otherwise stated, all chapters, sections and tables referred to in this annex can be found in the main text of the GHS.

#### A4.2 General guidance for compiling an SDS

##### A4.2.1 *Scope and application*

Safety Data Sheets (SDS) should be produced for all substances and mixtures which meet the harmonized criteria for physical, health or environmental hazards under the GHS and for all mixtures which contain ingredients that meet the criteria for carcinogenic, toxic to reproduction or target organ toxicity in concentrations exceeding the cut-off limits for SDS specified by the criteria for mixtures (see Table 1.5.1 in Chapter 1.5). The competent authority (CA) may also require SDS for mixtures not meeting the criteria for classification as hazardous but which contain hazardous ingredients in certain concentrations (see Chapter 3.2). The CA may also require SDS for substances or mixtures that meet the criteria for classification as hazardous for non-GHS classes/end-points. An SDS is a well-accepted and effective method for the provision of information, and may be used to convey information for substances or mixtures that do not meet or are not included in the GHS classification criteria.



##### A4.2.2 General guidance

A4.2.2.1 The writer of the SDS needs to keep in mind that an SDS must inform its audience of the hazards of a substance or a mixture and provide information on the safe storage, handling and disposal of the substance or a mixture. An SDS contains information on the potential health effects of exposure and how to work safely with the substance or mixture. It also contains hazard information derived from physicochemical properties or environmental effects, on the use, storage, handling and emergency response measures related to that substance or mixture. The purpose of this guidance is to ensure consistency and accuracy in the content of each of the mandatory headings required under GHS, so that the resulting safety data sheets will enable users to take the necessary measures relating to protection of health and safety at the workplace, and the protection of the environment. The information in the SDS shall be written in a clear and concise manner. The SDS shall be prepared by a competent person who shall take into account the specific needs of the user audience, as far as it is known. Persons placing substances and mixtures on the market shall ensure that refresher courses and training on the preparation of SDS be regularly attended by the competent persons.

A4.2.2.2 When writing the SDS, information should be presented in a consistent and complete form, with the workplace audience firmly in mind. However, it should be considered that all or part of the SDS can be used to inform workers, employers, health and safety professionals, emergency personnel, relevant government agencies, as well as members of the community.

#### **A4.2.4 SDS content**

A4.2.4.1 General information on SDS content can be found in 1.5.3.3. More practical information is given below.

A4.2.4.2 The minimum information outlined in section A4.3 of this annex should be included on the SDS, where applicable and available<sup>1</sup>, under the relevant headings. When information is not available or lacking this should be clearly stated. The SDS should not contain any blanks.

A4.2.4.3 In addition, the SDS should contain a brief summary/conclusion of the data given, making it easy even for non-experts in the field to identify all the hazards for the hazardous substance/mixture.

A4.2.4.4 Use of abbreviations is not recommended because they may lead to confusion or decreased understanding.

#### **A4.2.5 Other information requirements**

A4.2.5.1 There are information requirements for the preparation of an SDS. The minimum information requirements are outlined in A4.3.

A4.2.5.2 In addition to the minimum information requirements (see A4.2.4.2), the SDS may also contain "additional information". Where a material has additional relevant and available information about its nature and/or use, that information should be included in the SDS (see A4.3.16 for further advice on additional information requirements).



#### **A4.2.6 Units**

Numbers and quantities should be expressed in units appropriate to the region into which the product is being supplied. In general, the International System of Units (SI) should be used.

#### **A4.3 Information requirements for the preparation of the SDS**

This section describes the GHS information requirements for SDS's. Additional information may be required by competent authorities.

##### **A4.3.1 SECTION 1: Identification**

Identify the substance or mixture and provide the name of the supplier, recommended uses and the contact detail information of the supplier including an emergency contact in this section.

##### **A4.3.1.1 GHS Product identifier**

The identity of the substance or mixture (GHS product identifier) should be exactly as found on the label. If one generic SDS is used to cover several minor variants of a substance or mixture, all names and variants should be listed on the SDS or the SDS should clearly delineate the range of substances included.

##### **A4.3.1.2 Other means of identification**

In addition, or as an alternative, to the GHS product identifier, the substance or mixture may be identified by alternative names, numbers, company product codes, or other unique identifiers. Provide other names or synonyms by which the substance or mixture is labelled or commonly known, if applicable.

<sup>1</sup> Where "applicable" means where the information is applicable to the specific product covered by the SDS. Where "available" means where the information is available to the supplier or other entity that is preparing the SDS.



**A4.3.1.3 Recommended use of the chemical and restrictions on use**

Provide the recommended or intended use of the substance or mixture, including a brief description of what it actually does, e.g. flame retardant, anti-oxidant, etc. Restrictions on use should, as far as possible, be stated including non-statutory recommendations by the supplier.

**A4.3.1.4 Supplier's details**

The name, full address and phone number(s) of the supplier should be included on the SDS.

**A4.3.1.5 Emergency phone number**

References to emergency information services should be included in all SDS. If any restrictions apply, such as hours of operation (e.g. Monday - Friday, 8:00 a.m. - 6:00 p.m., or 24 hours) or limits on specific types of information (e.g., medical emergencies, or transportation emergencies), this should be clearly stated.

**A4.3.2 SECTION 2: Hazard identification**

This section describes the hazards of the substance or mixture and the appropriate warning information (signal word, hazard statement(s) and precautionary statement(s)) associated with those hazards. The section should include a brief summary/conclusion of the data given as described in A4.2.4.3.

**A4.3.2.1 Classification of the substance or mixture**

A4.3.2.1.1 This sub-section indicates the hazard classification of the substance or mixture.

A4.3.2.1.2 If the substance or mixture is classified in accordance with Parts 2, 3 and/or 4 of the GHS, generally the classification is communicated by providing the appropriate hazard class and category/subcategory to indicate the hazard (for example, flammable liquid Category 1 and skin corrosive, Category 1A). However, when classification is differentiated within a hazard class and results in unique hazard statements, then the classification should also reflect that differentiation. For example, the route of exposure differentiates the acute toxicity classification as follows: acute oral toxicity Category 1, acute dermal toxicity Category 1 and acute inhalation toxicity Category 1. If a substance or mixture is classified into more than one category in a hazard class that is differentiated, then all classifications should be communicated.

**A4.3.2.2 GHS label elements, including precautionary statements**

A4.3.2.2.1 Based on the classification, provide the appropriate label elements: signal word(s), hazard statement(s) and precautionary statement(s).

A4.3.2.2.2 Pictograms (or hazard symbols) may be provided as a graphical reproduction of the symbols in black and white or the name of the symbol, e.g. "flame", "skull and crossbones".

**A4.3.2.3 Other hazards which do not result in classification**

Provide information on other hazards which do not result in classification but may contribute to the overall hazards of the material, for example, formation of air contaminants during hardening or processing, dust explosion hazards, suffocation, freezing or environmental effects such as hazards to soil-dwelling organisms.



- (v) humidity; and
- (vi) vibration.
- (c) How to maintain the integrity of the substance or mixture by the use of:
  - (i) stabilizers; and
  - (ii) anti-oxidants.
- (d) Other advice including:
  - (i) ventilation requirements;
  - (ii) specific designs for storage rooms/vessels;
  - (iii) quantity limits under storage conditions (if relevant); and
  - (iv) packaging compatibilities.

#### **A4.3.8 SECTION 8: Exposure controls/personal protection**

Within this guidance the term “occupational exposure limit(s)” refers to limits in the air of the workplace or biological limit values. In addition, for the purposes of this document “exposure control” means the full range of specific protection and prevention measures to be taken during use in order to minimize worker and environmental exposure. Engineering control measures that are needed to minimize exposure to, and risks associated with the hazards of, the substance or mixture should be included in this section.

##### **A4.3.8.1 *Control parameters***

A4.3.8.1.1 Where available, list the occupational exposure limits (limits in the air of the workplace or biological limit values), including notations, for a substance and for each of the ingredients of a mixture. If air contaminants are formed when using the substance or mixture as intended available occupational exposure limits for these should also be listed. If an occupational exposure limit exists for the country or region in which the SDS is being supplied, this should be listed. The source of the occupational exposure limit should be stated on the SDS. When listing occupational exposure limits, use the chemical identity as specified in section 3 (Composition/Information on ingredients) of the SDS.

A4.3.8.1.2 Where available, list the biological limit values, including notations, for a substance and for each of the ingredients of a mixture. Where possible, the biological limit value should be relevant to the countries or regions in which the SDS is being supplied. The source of the biological limit value should be stated on the SDS. When listing biological limit values, use the chemical identity as specified in section 3 of the SDS.

A4.3.8.1.3 Where a control banding approach is recommended for providing protection in relation to specific uses then sufficient detail should be given to enable effective management of the risk. The context and limitations of the specific control banding recommendation should be made clear.

##### **A4.3.8.2 *Appropriate engineering controls***

The description of appropriate exposure control measures should relate to the intended modes of use of the substance or mixture. Sufficient information should be provided to enable a proper risk assessment to be carried out. Indicate when special engineering controls are necessary, and specify which type. Examples include:

- (a) “maintain air concentrations below occupational exposure standards”, using engineering controls if necessary;

- (b) “use local exhaust ventilation when...”;
- (c) “use only in an enclosed system”;
- (d) “use only in spray paint booth or enclosure”;
- (e) “use mechanical handling to reduce human contact with materials”; or
- (f) “use explosive dust handling controls”.



The information provided here should complement that provided under section 7 (Handling and storage) of the SDS.

**A4.3.8.3 Individual protection measures, such as personal protective equipment (PPE)**

A4.3.8.3.1 Consistent with good occupational hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures, including engineering controls, ventilation and isolation. See also section 5 (Fire- fighting measures) of the SDS for specific fire/chemical PPE advice.

A4.3.8.3.2 Identify the PPE needed to minimize the potential for illness or injury due to exposure from the substance or mixture, including:

- (a) Eye/face protection: specify the type of eye protection and/or face shield required, based on the hazard of the substance or mixture and potential for contact;
- (b) Skin protection: specify the protective equipment to be worn (e.g. type of gloves, boots, bodysuit) based on the hazards associated with the substance or mixture and the potential for contact;
- (c) Respiratory protection: specify appropriate types of respiratory protection based on the hazard and potential for exposure, including air-purifying respirators and the proper purifying element (cartridge or canister) or breathing apparatus; and
- (d) Thermal hazards: when specifying protective equipment to be worn for materials that represent a thermal hazard, special consideration should be given to the construction of the PPE.

A4.3.8.3.3 Special requirements may exist for gloves or other protective clothing to prevent skin, eye or lung exposure. Where relevant, this type of PPE should be clearly stated. For example, “PVC gloves” or “nitrile rubber gloves”, and thickness and breakthrough time of the glove material. Special requirements may exist for respirators.

**A4.3.9 SECTION 9: Physical and chemical properties**

A4.3.9.1 Describe the empirical data of the substance or mixture (if possible) in this section.

A4.3.9.2 In the case of a mixture, the entries should clearly indicate to which ingredient the data apply, unless it is valid for the whole mixture. The data included in this sub-section should apply to the substance or mixture.

A4.3.9.3 Clearly identify the following properties and specify appropriate units of measure and/or reference conditions where appropriate. If relevant for the interpretation of the numeric value, the method of determination should also be provided (e.g. for flash point, open-cup/closed-cup):

- (a) Appearance (physical state, colour etc);
- (b) Odour;
- (c) Odour threshold;

## I

*(Acts whose publication is obligatory)*

**REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT  
AND OF THE COUNCIL**

**of 18 December 2006**

**concerning the Registration, Evaluation, Authorisation and  
Restriction of Chemicals (REACH), establishing a European Chemicals Agency,  
amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93  
and Commission Regulation (EC) No 1488/94 as well as  
Council Directive 76/769/EEC and Commission Directives 91/155/EEC,  
93/67/EEC, 93/105/EC and 2000/21/EC**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee<sup>1</sup>,

Having regard to the opinion of the Committee of the Regions<sup>2</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty<sup>1</sup>,

---

<sup>1</sup> OJ C 112, 30.4.2004, p. 92 and OJ C 294, 25.11.2005, p. 38.

<sup>2</sup> OJ C 164, 5.7.2005, p. 78.

## 2. HAZARDS IDENTIFICATION

Give here the classification of the substance or preparation which arises from application of the classification rules in Directives 67/548/EEC or 1999/45/EC. Indicate clearly and briefly the hazards the substance or preparation presents to man and the environment.

Distinguish clearly between preparations which are classified as dangerous and preparations which are not classified as dangerous according to Directive 1999/45/EC.

Describe the most important adverse physicochemical, human health and environmental effects and symptoms relating to the uses and possible misuses of the substance or preparation that can reasonably be foreseen.

It may be necessary to mention other hazards, such as dustiness, cross-sensitisation, suffocation, freezing, high potency for odour or taste or environmental effects such as hazards to soil-dwelling organisms, ozone depletion, photochemical ozone creation potential, etc., which do not result in classification but which may contribute to the overall hazards of the material.

The information shown on the label shall be given under heading 15.

The classification of the substance shall be consistent with the classification provided to the classification and labelling inventory according to Title XI.



## **OSHA Hazard Communication Standard – TLV Requirement**

### **1910.1200(g)**

"Material safety data sheets."

### **1910.1200(g)(1)**

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

### **1910.1200(g)(2)**

Each material safety data sheet shall be in English (although the employer may maintain copies in other languages as well), and shall contain at least the following information:

#### **1910.1200(g)(2)(i)**

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

#### **1910.1200(g)(2)(i)(A)**

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

#### **1910.1200(g)(2)(i)(B)**

If the hazardous chemical is a mixture which has been tested as a whole to determine its hazards, the chemical and common name(s) of the ingredients which contribute to these known hazards, and the common name(s) of the mixture itself; or,

#### **1910.1200(g)(2)(i)(C)**

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

#### **..1910.1200(g)(2)(i)(C)(1)**

#### **1910.1200(g)(2)(i)(C)(1)**

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

#### **1910.1200(g)(2)(i)(C)(2)**

The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise less than 1% (0.1% for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees; and,

#### **1910.1200(g)(2)(i)(C)(3)**

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

#### **1910.1200(g)(2)(ii)**

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

**1910.1200(g)(2)(iii)**

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

**1910.1200(g)(2)(iv)**

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

**1910.1200(g)(2)(v)**

The primary route(s) of entry;

**..1910.1200(g)(2)(vi)**

**1910.1200(g)(2)(vi)**

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

**1910.1200(g)(2)(vii)**

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

**1910.1200(g)(2)(viii)**

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

**1910.1200(g)(2)(ix)**

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

**1910.1200(g)(2)(x)**

Emergency and first aid procedures;


**1910.1200(g)(2)(xi)**

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

**..1910.1200(g)(2)(xii)**

**1910.1200(g)(2)(xii)**

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



UNITED STATES  
DEPARTMENT OF LABOR

OSHA

Advanced Search

[SEARCH](#)

[A to Z Index](#) | [En Español](#) | [Contact Us](#) | [FAQs](#) | [About OSHA](#)


Occupational Safety & Health Administration

We Can Help

What's New | Offices

[Home](#)
[Workers](#)
[Regulations](#)
[Enforcement](#)
[Data & Statistics](#)
[Training](#)
[Publications](#)
[Newsroom](#)

Small Business



---

[Standard Interpretations - Table of Contents](#)

---

• **Standard Number:** 1910.1200

---

January 25, 1995

Richard F. Andree, CSP, PE, Ph.D.  
Vice President - Director of Safety and Health Services  
Lovell Safety Management Company, Inc.  
161 William Street New York, New York 10038-2675

Dear Mr. Andree:

This is in further response to your letter of April 11, to the Occupational Safety and Health Administration (OSHA), requesting guidance on whether an inert gas in the non-compressed state represent hazardous chemicals under the Hazard Communication Standard (HCS), 29 CFR 1910.1200. Your letter specifically inquired about gases such as argon, nitrogen and helium at atmospheric pressure. Please accept my apology in the delay in this response.

OSHA agrees with your statement that inert gases are classified as a simple asphyxiants. Patty's **Industrial Hygiene and Toxicology** defines a simple asphyxiant as: "physiologically inert gases that can act principally by dilution of the atmospheric oxygen below partial pressure necessary to maintain an oxygen saturation in the blood sufficient for normal tissue respiration."

Inert gases, such as argon, nitrogen and helium, have the potential to create a hazardous atmosphere (less than 19.5% oxygen) and, where that potential exists, are considered by OSHA as hazardous chemicals presenting an acute health hazard and covered by the standard. The HCS would not apply where employees are not occupationally exposed, under normal conditions of use or in a reasonably foreseeable emergency, to the oxygen displacing hazard associated with inert gases. Obviously, argon, nitrogen and helium occur naturally in the atmosphere, and under those conditions they are not hazardous chemicals.

The HCS requires chemical manufacturers, or importers to assess 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, material data safety sheets (MSDSs), and information and training. Included in the HCS is paragraph (c) which contains a broad definition of the term "health hazard." Appendix A of the HCS also provides further definition and explanations of the scope of health hazards including acute health hazards. Enclosed for your reference is a copy of a February 9, Hazard Communication; Final Rule which contains a number of minor changes and technical amendments to clarify further the regulatory requirements.

You objected to the language in the March 4, 1993, letter to Matthew McFarland stating that **toxicity has been established in inert gases**, and that the manufacturer, importer, and/or distributor has the duty of performing a complete hazard determination. To elaborate on the underlined phrase we mean **the toxic effects of excessive levels of inert bases has been well established**. Hopefully, this clarifies the language and addresses your concern.

We hope this information provides you with the necessary guidance. Thank you for your interest in worker safety and health. Should you require additional information please contact the Office of Health Compliance Assistance at (202) 219-8036.

Sincerely,

Joseph A. Dear  
Assistant Secretary

---

[Standard Interpretations - Table of Contents](#)

---

Freedom of Information Act | Privacy & Security Statement | Disclaimers | Customer Survey | Important Web Site Notices | International | Contact Us

U.S. Department of Labor | Occupational Safety & Health Administration | 200 Constitution Ave., NW, Washington, DC 20210  
Telephone: 800-321-OSHA (6742) | TTY: 877-889-5627

[www.OSHA.gov](http://www.OSHA.gov)



**Record Type:**  
• **Old Directive Number:**  
• **Title:**  
• **Information Date:**

Instruction  
CPL 03-00-008  
Combustible Dust National Emphasis Program (Reissue  
03/11/2008

## OSHA INSTRUCTION

<b>DIRECTIVE NUMBER:</b> CPL 03-00-008	<b>EFFECTIVE DATE:</b> 3/11/08
<b>SUBJECT:</b> Combustible Dust National Emphasis Program (Reissued)	

### ABSTRACT

**Purpose:** This instruction contains policies and procedures for inspecting workplaces that create or handle combustible dusts. In some circumstances these dusts may cause a deflagration, other fires, or an explosion. These dusts include, but are not limited to:

- Metal dust such as aluminum and magnesium.
- Wood dust
- Coal and other carbon dusts.
- Plastic dust and additives
- Biosolids
- Other organic dust such as sugar, flour, paper, soap, and dried blood.
- Certain textile materials

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

**References:** See paragraph III.

**Cancellations:** This directive cancels OSHA Instruction CPL 03-00-006 Combustible Dust National Emphasis Program, October 18, 2007.

**State Plan Impact:** Notice of Intent required. See paragraph VI.

**Action Offices:** National, Regional, and Area Offices.

**Originating Office:** Directorate of Enforcement Programs

**Contact:** Directorate of Enforcement Programs  
200 Constitution Avenue, NW, Room N3107  
Washington, DC 20210  
Phone: (202) 693-1850

By and Under the Authority of

Edwin G. Foulke, Jr.  
Assistant Secretary

## 9. Citations.

- a. **Grain Handling Standard Violations.** For violations at grain handling facilities (e.g., flour mills), citations under 1910.272 shall be issued. (See OSHA Instruction CPL 02-01-004, Inspection of Grain Handling Facilities, 29 CFR 1910.272).
- b. **Ventilation Standard Violations.** If the facility's operations are covered by 1910.94, *Ventilation*, then any violations of the standard shall be cited. Paragraph (a) of the standard covers abrasive blasting; paragraph (b), grinding, polishing, and buffing operations.
- c. **Housekeeping Violations.** If the facility being inspected under this NEP is not a grain handling facility, and the surface dust accumulations (**i.e., dust accumulations outside the dust collection system or other containers, such as mixers**) can create an explosion, deflagration or other fire hazard, then citations for violations of 29 CFR 1910.22 (housekeeping) shall be issued. The standard provides in pertinent part: "(a) *Housekeeping.* (1) All places of employment, passageways ... and service rooms shall be kept clean... (2) The floor of every workroom shall be maintained in a clean...condition." Courts of appeals and the Occupational Safety and Health Review Commission have held that 1910.22 applies to the hazard of combustible dust. *Con Agra, Inc. v. OSHRC*, 672 F.2d 699 (8<sup>th</sup> Cir. 1982); *Bunge Corp. v. Secretary of Labor*, 638 F.2d 831 (5<sup>th</sup> Cir. 1981); *Farmers Cooperative Grain and Supply Company*, 10 BNA OSHC 2086 (No. 79-1177, 1982).
  - Citations for violations of 1910.22(a)(1) shall be issued when the levels of dust accumulations (see sections IX.E.3.c and d of this Instruction) exist in places of employment (except floors of workrooms and storage areas), passageways, and service rooms, in such depths that they can present explosion, deflagration or other fire hazards.
  - Citations for 1910.22(a)(2) shall be issued when the levels of dust accumulations (see section IX.E.3.c and d of this Instruction) exist on the **floors** of workrooms in such depths that they can present explosion, deflagration or other fire hazards.

However, small amounts of dust accumulations in isolated spots of the floor or other areas would not normally be classified as a violation of the housekeeping requirement under this NEP. In order to substantiate housekeeping violations, CSHOs shall take representative measurements. Thickness measurements must be made at several locations within the sampling area. For a large area, a paint brush and dustpan can be used. For a small area, a high-volume pump pulling through a filtered cassette may be used to collect the sample. As a part of determining whether the housekeeping violation is serious, the CSHO should determine whether the dust is combustible or can cause deflagration by submitting the sample to SLTC and obtaining its analyses. In addition, the CSHO should also document the heat and ignition sources.

In coal-handling operations located in electric power generation, transmission, and distribution facilities, 29 CFR 1910.22 shall not be cited for

**m. Hazard communication violations.** The hazard communication standard, 29 CFR 1910.1200, requires 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, material safety data sheets, and information and training. See "hazardous chemicals" definition in 29 CFR 1910.1200(c), which addresses physical hazards. The definition of physical hazards includes flammable solids (see the definition in .1200(c)), and employers who do not follow the requirements of this standard shall be cited with respect to chemicals which in the course of normal conditions of use could become combustible dusts. The standard requires chemical manufacturers and importers to develop or obtain a material safety data sheet for each hazardous chemical they produce or import. 29 CFR 1910.1200(g)(1).

CSHOs shall evaluate whether there is compliance with 1910.1200(g)(2)-(5) by examining a sample of MSDSs. If MSDSs are not updated when new information becomes available, they are deficient. 29 CFR 1910.1200(g)(5). If the MSDSs are found deficient with respect to the combustibility or explosibility of the dust being handled, CSHOs must refer to and follow the guidance provided in CPL 02-02-038, Inspection Procedures for the Hazard Communication Standard.

**STATEMENT OF EDWIN G. FOULKE, JR.  
ASSISTANT SECRETARY  
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
U.S. DEPARTMENT OF LABOR  
BEFORE THE  
COMMITTEE ON EDUCATION AND LABOR  
U.S. HOUSE OF REPRESENTATIVES**

**MARCH 12, 2008**

Mr. Chairman, Members of the Committee:

Thank you for the opportunity to appear today to discuss the proposed legislation, H.R. 5522, the "Combustible Dust Explosion and Fire Prevention Act of 2008."

I would like to express my deepest personal condolences to the victims and to the families of those who have been killed or injured in the explosion at the Imperial Sugar refinery in Port Wentworth, Georgia, in early February. Everyone in the Occupational Safety and Health Administration (OSHA) takes the Agency's mission very seriously, and they also join in my condolences to those affected by this tragedy.

We received a copy of the legislation last week, and have begun our analysis of the bill. However, in this short time we have not completed our analysis and cannot provide definitive comments on the proposal. More importantly, we have not finished our investigation of the accident at Imperial Sugar and cannot at this time say that the rule that is being proposed by the legislation would have prevented this tragedy. What I can

do is to tell the Committee about our ongoing investigation of the Port Wentworth fire and our overall efforts related to combustible dust hazards.

OSHA's investigation of the explosion, which began within two hours of the accident, is being coordinated by our Savannah Area Office. After learning of the accident, OSHA immediately dispatched two compliance officers to the scene. Several additional compliance officers as well as an attorney from the Department's Regional Solicitor's Office have also participated in this investigation. Six OSHA personnel are on-site working under the supervision of senior staff. An explosives expert from the National Office was sent to the site. In addition, OSHA has retained an outside expert on combustible dust to provide technical assistance. OSHA will inform the Committee of our findings when the investigation is completed.

In the immediate aftermath of the explosion, OSHA worked with the local fire marshal to help ensure the safety and health of first responders (firefighters, ambulance crews, etc.) and prevent additional injuries or deaths from occurring. OSHA helped ensure that all emergency responders used proper safety equipment. OSHA compliance personnel conducted air sampling so that no one on site was exposed to a release of contaminants or toxic substances, such as asbestos. In fact, OSHA declared an administration building "off-limits" when OSHA inspectors found potentially flammable vapors caused by sugar fermentation.

On February 9, the Bureau of Alcohol Tobacco and Firearms (ATF) assumed command of the accident site and a team of investigators from the Chemical Safety Board (CSB) arrived at the site. OSHA negotiated an agreement with all parties to ensure that evidence at the site would be preserved for the investigation. The negotiation also ensured that, before any undamaged portions of the facility are returned to operation and employees allowed to enter, OSHA compliance officers will conduct a thorough inspection so that all known hazards are abated.

The sugar refinery investigation involves three companies with 112 employees on site at the time of the explosion. Early indications suggest that the Imperial Sugar refinery explosion occurred due to an excessive accumulation of combustible sugar dust. OSHA is attempting to determine the ignition source that led to the explosion, and whether any OSHA standards were violated. If that is the case, the Agency will issue citations and propose appropriate penalties.

Now I will discuss OSHA's overall efforts concerning combustible dust hazards. OSHA has recognized these hazards for many years, and has been implementing various initiatives and standards to deal with the problem. It is important to point out that OSHA already has tough standards on the books that address combustible dust hazards such as the standards covering general requirements for housekeeping, emergency action plans, ventilation, hazardous locations, and hazard communication.

For example, the most important standard for grain elevators and similar facilities is our Grain Handling Standard, which includes requirements for housekeeping, ventilation, electrical safety, hazard assessment, employee training and other requirements. OSHA's Ventilation Standard also applies in some situations outside grain facilities. If the facility's operations are covered by 29 CFR 1910.94, *Ventilation*, the facility operator is required to follow the standards requirements on abrasive blasting; grinding, polishing, and buffing operations.

OSHA's housekeeping requirements apply to hazardous surface dust accumulations (i.e., dust accumulations outside the dust collection system or other containers, such as mixers.) For example, dust accumulations exceeding 1/32- inch covering an area of at least 5% of the total area of the room with an upper limit of 1000 square feet and determined by laboratory analysis to be combustible are subject to OSHA's housekeeping standard. In general, the housekeeping standard requires that "all places of employment, passageways ... and service rooms shall be kept clean... and the floor of every workroom shall be maintained in a clean...condition." OSHA housekeeping requirements also apply to storage areas and in facilities like power plants that handle coal. OSHA's Process Safety Management standard can apply if the dust in question appears on the list of Highly Hazardous Chemicals (Appendix A to 29 CFR 1910.119) and is present in quantities greater than or equal to the threshold for PSM requirements. If laboratory analysis of dust collected by an OSHA inspector indicates that the dust meets certain combustibility requirements, standards related to electrical safety will apply. Where

Powered Industrial Trucks are used OSHA standards at 29 CFR 1910.178(c)(2)(ii) and (vi)-(ix) and 1910.178(m)(11). These include safety requirements for fire protection, design, maintenance and use of a variety of power trucks including their suitability for hazardous combustible dust locations.

The hazard communication standard, 29 CFR 1910.1200, requires 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, material safety data sheets, and information and training. The definition of physical hazards includes flammable solids (see the definition in 1910.1200(c)), which in the course of normal conditions of use could become combustible dusts.

OSHA requirements for provision of adequate means of egress as well as general OSHA fire protection requirements may also apply, as will OSHA standards related to bakery equipment (hazards in sugar and spice pulverizers); and sawmills (in connection with defects in the design, construction, and maintenance of blower collecting and exhaust systems.

Of the standards outlined above, the most important is housekeeping. When dust is not allowed to accumulate, the chances for a combustible dust explosion are vastly reduced.



While OSHA has a number of standards and policies on combustible dust, we understand that employers may not be aware of the hazard and OSHA's policies. Therefore, OSHA has provided outreach to our stakeholders as well. OSHA Area and Regional offices conduct outreach sessions on many topics, including combustible dust hazards. OSHA has also reached out to the fire safety profession, as well as our state plan enforcement and consultation partners. State plan and consultation staff have then taken various efforts to reach out to employers and employees within their states.

In 2005, OSHA issued a Safety and Health Information Bulletin, or SHIB, titled *Combustible Dust in Industry: Preventing and Mitigating the Effects of Fire and Explosions*. This comprehensive guidance highlights the hazards associated with combustible dusts; the work practices and engineering controls that reduce the potential for a dust explosion or that reduce the danger to employees if such an explosion should occur; and the training needed to protect employees from these hazards.

In light of the tragedy in Savannah, I recently sent a letter, along with a copy of OSHA's Combustible Dust SHIB, to an estimated 30,000 employers across the country in industries where combustible dusts are commonly found. In this letter I urged employers to review the information and reminded them of their responsibilities to prevent combustible dust hazards to help prevent future tragedies. I also reminded them of the assistance OSHA's onsite Consultation Program can provide confidentially and free of charge.

The Agency also implemented several proactive measures related to enforcement. OSHA has implemented a major enforcement initiative by developing a comprehensive National Emphasis Program (NEP) for Combustible Dust that took effect on October 18, 2007. The NEP is based on OSHA's expertise and experience in identifying and mitigating combustible dust hazards, as well as a regional Special Emphasis Program (SEP) on combustible dust implemented in 2004. It focuses on workplaces where combustible dust hazards are likely to be found and lists the different types of materials that can lead to combustible dust. Industries covered by the NEP include agriculture, food processing (including sugar), chemicals, textiles, forest products, metal processing, tire and rubber manufacturing, paper products, pharmaceuticals, recycling operations and coal handling and processing facilities. These industries deal with a wide range of combustible dusts with differing properties including metal dusts such as aluminum and magnesium, wood dust, coal and carbon dust, plastic dusts, biosolids, certain textile materials and organic dusts such as paper, soap, dried blood and sugar.

In particular, our inspectors are to look for violations of our existing standards on dust accumulations and sources of ignition, which are basic ingredients of a combustible dust explosion.

As of last week, OSHA had conducted 51 inspections under the National Emphasis Program. These inspections have resulted in findings of 109 violations of existing standards known to mitigate combustible dust hazards. In addition to the standards I

mentioned earlier, these also include a standard covering powered industrial trucks. In most combustible dust accident investigations, we have found that if employers had followed the applicable standards, they would have mitigated these hazards and prevented the explosions. OSHA has recently expanded the Combustible Dust NEP, and as a result, the Agency is planning to conduct at least 300 inspections this year. Moreover, refinements and improvements to the expanded NEP have resulted in a special concentration on the industries with a high probability of high-consequence combustible dust explosions.

Over the last three years, OSHA has placed a greater emphasis on training our compliance officers on combustible dust hazards by providing specialized training to several hundred inspectors. The OSHA Training Institute has developed a comprehensive three and one-half day course on Combustible Dust Hazards and Controls, which it began offering last December. OSHA has also provided training on combustible dust hazards to our state enforcement and consultation program partners.

OSHA has also disseminated other compliance assistance materials related to combustible dusts, including three different eTools found on our public website. These eTools are "stand-alone," interactive, web-based training tools on various occupational safety and health topics. They are highly illustrated and utilize graphical menus. OSHA has eTools on woodworking, sawmills and shipbuilding, all of which have components that address combustible dust hazards. OSHA disseminates an 80-page publication,

available on the website, entitled *Guide for Protecting Workers from Woodworking Hazards* that has a section that also addresses dust hazards. In 1998, OSHA released a Hazard Information Bulletin dealing with dust explosion hazards in the textile industry.

Last week, we posted a combustible dust web page to make it easier to find these guidance materials and other helpful resources. We are also in the process of developing new guidance materials including a hazard communication alert and a combustible dust fact sheet.

I know you are familiar with the U.S. Chemical Safety and Hazard Investigation Board's (CSB) November 2006 report dealing with combustible dust hazards. The CSB report made five recommendations to OSHA. First, CSB recommended that OSHA establish a National Emphasis Program focused on combustible dust. We initiated a Special Emphasis Program on combustible dust in 2004 which we expanded into a National Emphasis Program in October 2007. Second, CSB recommended that we offer training through the OSHA Training Institute on recognition of combustible dust hazards and preventions of explosions. We have been offering such training for several years, and recently expanded that training with a special 3 1/2 day course. CSB also recommended that OSHA revise its hazard communication requirements to address combustible dust. The results of our NEP have indicated the need to clarify that HazComm requirements also cover combustible dusts, and we have begun work on appropriate guidance to communicate this to employers.

CSB recommended that we recommend to the United Nations that the Globally Harmonized System hazard communication agreement awaiting international ratification be modified to address combustible dust hazards. It is the U.S. position at the United Nations Subcommittee of Experts on the GHS that changing the GHS during the implementation process could cause confusion and complicate compliance efforts by creating a “moving target” for those who are attempting to evaluate or comply with new regulatory requirements. GHS does not define combustible dust, but does address these hazards by requiring they be identified on safety data sheets. Furthermore, current GHS coverage of combustible dust does not conflict with current OSHA policy and practice. For these reasons, OSHA does not intend to inform the United Nations of a need to amend the GHS to include additional criteria for combustible dust hazards at this time, but we may do so later.

Lastly, CSB recommended OSHA issue a combustible dust standard. Let me be clear that we have a number of standards that apply to situations where combustible dust hazards may be found. Again, these include standards that cover general requirements for housekeeping, emergency action plans, ventilation, hazardous locations, and hazard communication. If employers follow the existing requirements established by these standards, employees will be protected from combustible dust hazards. If our investigation of the Imperial Sugar accident or our forthcoming inspections indicates that our existing standards do not adequately mitigate the potential for combustible dust hazards, we will assess the need for regulatory changes.

We believe that the Agency has taken strong measures to prevent combustible dust hazards, and that our multi-pronged approach, which includes effective enforcement of existing standards, combined with education for employers and employees, is effective in addressing combustible dust hazards. We would like to emphasize that the existence of a standard does not ensure that explosions will be eliminated. The effectiveness of a standard always depends on how well employers implement the requirements, and many tragic accidents in the last decade could have been avoided or minimized if employers had complied with existing OSHA standards. Secondary dust explosions resulting from excessive dust accumulations resulted in many of the casualties in recent catastrophic events.

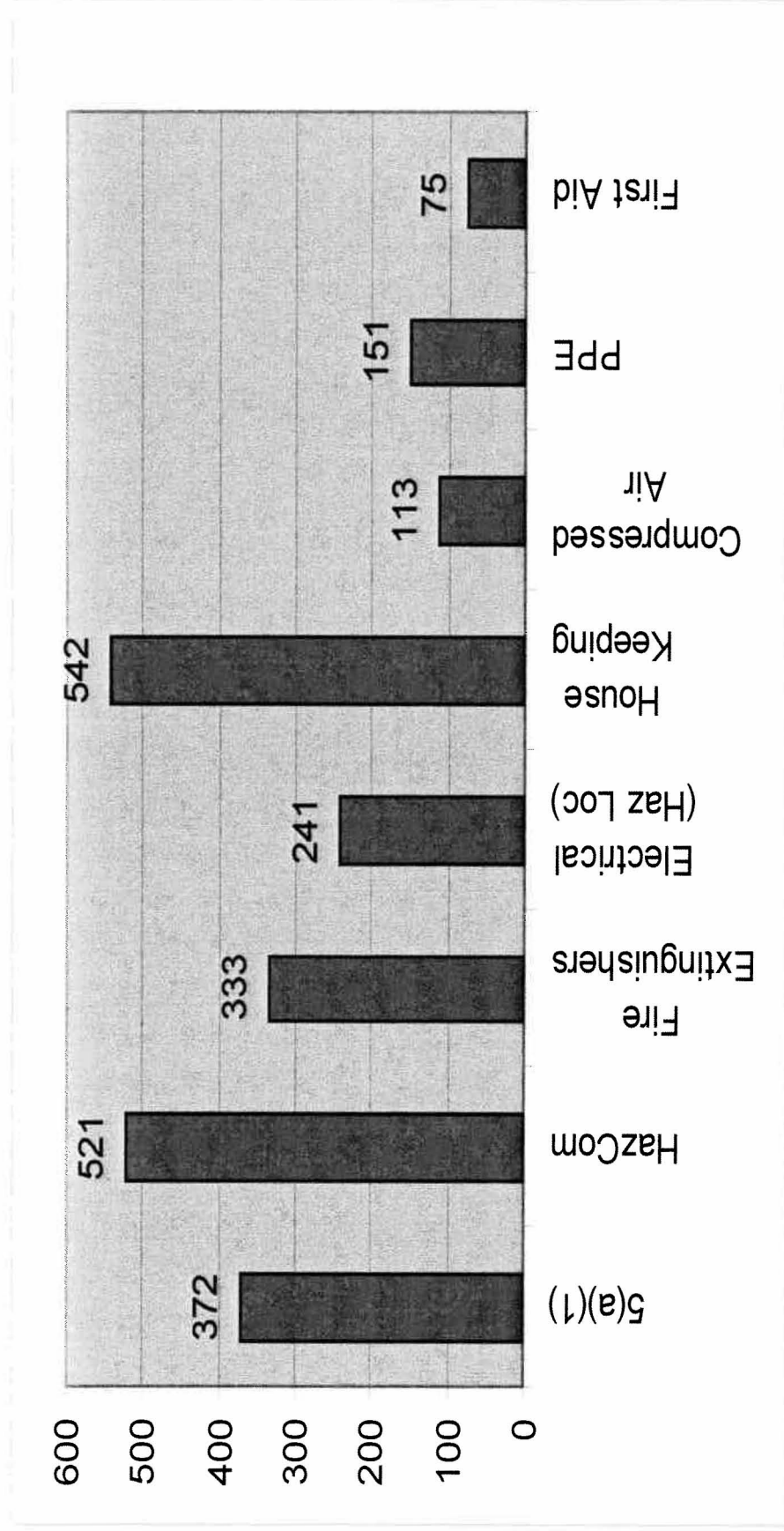
Nonetheless, the Agency is carefully considering all options to deal with combustible dusts, including rulemaking. While we are still conducting a full analysis of the proposed legislation, we are continually evaluating our current combustible dust efforts, and are eager to learn how effective our new National Emphasis Program will be.

\*\*\*

Let me reiterate that we are saddened by the tragic loss of life that resulted from the Imperial Sugar explosion. We will not rest until we ensure that all employees go home safely to their families and friends at the end of every work day.

Thank you Mr. Chairman. I would be happy to answer any questions.

# Combustible Dust Related Violations --Federal



# Combustible Dust Related Violations

