

### **Note to the Reviewer**

As required by the Paperwork Reduction Act of 1995, OSHA is submitting this Information Collection (ICR) to the Office of Management and Budget for the Revised Hazard Communication Standard (29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59, and 1928.21) Incorporating Globally Harmonized System of Classification and Labelling of Chemicals rulemaking. The Final Rule erroneously stated the capital cost for the collections of information as 34.7 million dollars. The correct cost as stated in the supporting statement is 50 million dollars and the calculations are discussed under item 13 of this supporting statement. OSHA will publish a Federal Register correction notice correcting the total cost as stated in the Final rule.

**Supporting Statement For The  
Revised Hazard Communication Standard<sup>1</sup>  
(29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59, and 1928.21)  
Incorporating Globally Harmonized System of Classification and Labelling of  
Chemicals (OMB Control No. 1218-0072 (February 2012))**

**A. JUSTIFICATION**

- 1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

The main objective of the Occupational Safety and Health Act of 1970 (i.e., “The Act”) is to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources” (29 U.S.C. 651 et. seq.). To achieve this objective, the Act authorizes “the development and promulgation of occupational safety and health standards” (29 U.S.C.651).

Section 6(b)(7) of the Act of 1970, states that any occupational safety or health standard promulgated by the Secretary of Labor under section 6(b) rulemaking authority "shall prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed, relevant symptoms and appropriate emergency treatment, and proper conditions and precautions of safe use of exposure." In promulgating substance-specific rules to address the hazards of a particular chemical, OSHA followed this Congressional directive. However, given the universe of chemicals present in American workplaces (as many as 1,414,636 hazardous chemical products), and the time-consuming nature of OSHA's rulemaking process, it became clear that little information would be available to employees if this substance-by-substance approach was the only avenue pursued. Workers exposed to chemicals would continue to encounter a myriad of hazards. Many chemicals cause acute injuries or illnesses such as rashes, burns and poisoning, or chronic effects such as cancer or liver damage. Also, chemicals can pose physical hazards to workers by contributing to accidents such as fires and explosions. To prevent such occupational hazards, the Agency addressed the issue of hazard information transmittal on a generic basis.

The purpose of the Hazard Communication Standard (HCS) (29 CFR 1910.1200) and its collection of information requirements is to ensure that the hazards of chemicals produced or imported are evaluated and that information concerning these hazards is transmitted to employers and employees. This purpose is accomplished through hazard determination, labels, safety data sheets (SDSs)<sup>2</sup>, written hazard communication programs, and training. These collections of information requirements are currently

---

<sup>1</sup> ? The purpose of this Supporting Statement is to analyze and describe the burden hours and costs associated with the proposed revisions to the existing Hazard Communications information collection request.

<sup>2</sup> In the final rule, the term “material safety data sheet” has been modified to “safety data sheet” to reflect the terminology of the GHS.

approved by the Office of Management and Budget (OMB) under OMB Control Number 1218-0072.

In this final rule, OSHA is modifying its Hazard Communication Standard to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The purpose of the modification to the HCS is to standardize the hazard communication requirements for products used in U.S. workplaces, and thus provide employees with consistent hazard communication information. Hazard communication is currently addressed by many different international, national, and State authorities.

The existing requirements are not always consistent and often contain different definitions of hazards and varying provisions for what information is required on labels and safety data sheets. The revisions are consistent with the internationally negotiated set of criteria and provisions and therefore would remove a significant barrier to trade. The final standard contains a number of changes to improve the performance of the United States hazard communication system: (1) revised criteria for more consistent classification of chemical hazards; (2) standardized signal words, pictograms, hazard statements, and precautionary statements on labels; and (3) a standardized format for SDSs.

- 2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.**

The final rule affects employers and employees in many different industries across the economy. The HCS covers over five million workplaces<sup>3</sup> in which employees are potentially exposed to hazardous chemicals.

The modifications make the requirements of the current HCS consistent with the provisions of the GHS. In addition to standardizing the hazard communication requirements for products used in U.S. workplaces, the modifications will also define and revise specific classifications and categories of hazards.

OSHA has determined that the final modifications improve the quality and consistency of information provided to employers and employees regarding chemical hazards and associated protective measures. Thus, these modifications are expected to result in increased safety and health for the affected employees and to reduce the numbers of accidents, fatalities, injuries, and illnesses associated with exposures to hazardous chemicals.

The final revisions impacting the HCS paperwork requirements include: (1) revised criteria for classification of chemical hazards; (2) revised labeling provisions that include requirements for use of standardized signal words, pictograms, hazard statements, and precautionary statements; (3) a specified format for safety data sheets; and (4) related

---

<sup>3</sup> ? As shown in the PP&E report prepared under contract to the Department of Labor (and as reproduced in Table VII-2).

revisions to definitions of terms used in the standard, requirements for employee training on labels and safety data sheets. OSHA is also modifying provisions in a number of substance-specific health standards to ensure consistency with the modified HCS requirements.

The Agency assumes that additional training would be necessary to ensure that employees understand the elements of the new system. The existing standard requires that employee training include at least the details of the employer's hazard communication program, including an explanation of the labeling system and how employees can obtain and use the appropriate hazard information. The modifications to the training requirements include changes to (1) revise training for new employees, (2) train employees in the new labeling for shipped containers, workplace labeling, and SDSs, including the order of information, and (3) change the written hazard communication program, if necessary, to reflect the new format and content of SDSs and labels. The Agency is therefore proposing to modify training requirements to address the new label elements and the SDS format that would be required under the revised standard. Training will support and enhance the effectiveness of the new label and SDS requirements.

While there are revisions to the training requirements, OSHA continues to maintain that the revisions are considered performance-oriented since they do not specify how employers must conduct the training, or how many hours employers must expend training their employees; further, employers do not need to maintain employee training records. Therefore, the Agency is not taking a burden for the modifications to the final training provisions since they are performance-oriented.

The following paragraphs identify the paperwork requirements contained in the HCS final rule. Burden hours and costs are discussed under Item 12.

#### **Hazard Classification §1910.1200(d)**

*§1910.1200(d)(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.

*§1910.1200(d)(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.

*Mixtures §1910.1200(d)(3)(i)* - Chemical manufacturers, importers, or employers evaluating chemicals shall follow the procedures described in Appendixes 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.

*§1910.1200(d)(3)(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 individual ingredients except where the chemical manufacture 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.

### **Written Hazard Communication Program § 1910.1200(e)**

All employers who have workers exposed to hazardous chemicals<sup>4</sup> must develop, implement and maintain a written hazard communication program. The written hazard communication program must describe how the criteria specified in the following paragraphs are met: paragraphs (f) *Labels and other forms of warning*, (g) *Safety Data Sheets*, and (h) *Employee information and training*. Also, the written plan must include a list of the hazardous chemicals known to be present using an identity that is referenced on the appropriate SDSs, and the methods the employer uses to inform workers of the hazards on non-routine tasks and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

For multi-employer worksites the hazard communication program must also include the following: methods the employer will use to provide other employer(s) on-site access to SDSs for each hazardous chemical the other employer(s)' workers may be exposed to while working; the methods the employer will use to inform the other employer(s) of any precautionary measures that need to be taken to protect workers during the workplace's normal operating and in foreseeable emergencies; and the methods the employer will use to inform the other employer(s) of the labeling system used in the workplace. Employers may use an existing hazard communication program to meet these requirements provided the plan meets the requirements described in the preceding paragraph.

On request, the employer must make their hazard communication program available to workers, their designated representatives, OSHA compliance officers, and the National Institute for Occupational Safety and Health (NIOSH).

A written program provides a structure upon which to evaluate programs. Employers develop criteria they use in developing their programs, as well as the means used to meet those criteria. The written program serves as a useful reference for workers. Having the program in writing makes it easier to determine if the intent of the Standard is being met. Employers need not update their hazard communication programs as long as they meet the criteria established in paragraph (e) of the Standard. OSHA is not taking a burden for the information and training requirements specified by paragraph (h) of the HCS because these requirements are performance oriented; also, employers provide information and

---

<sup>4</sup>Hazardous chemical means any chemical which is a physical hazard or a health hazard.

training to workers regarding chemical hazards in the workplace as a usual and customary practice.

## **Labels and other forms of warning §1910.1200(f)**

### *Labels on shipped containers*

§1910.1200(f)(1) 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:

§1910.1200(f)(1)(i) - Product identifier;

§1910.1200(f)(1)(ii) - Signal word;

§1910.1200(f)(1)(iii) - Hazard statement(s);

§1910.1200(f)(1)(iv) - Pictogram(s);

§1910.1200(f)(1)(v) - Precautionary statement(s); and,

§1910.1200(f)(1)(vi) - Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

§1910.1200(f)(2) - The chemical manufacturer, importer, or distributor shall ensure that the information provided under (f)(1)(i) through (v) is in accordance with Appendix C, Allocation of Label Elements, 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).

§1910.1200(f)(3) - The chemical manufacturer, importer, or distributor shall ensure that the information provided under paragraphs (f)(1)(ii) through (iv) is located together on the label, tag, or mark.

§1910.1200(f)(4) -

§1910.1200(f)(4)(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;

*§1910.1200(f)(4)(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,

*§1910.1200(f)(4)(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).

*§1910.1200(f)(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.

*Workplace labeling (§1910.1200(f)(6))* - 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:

*§1910.1200(f)(6)(i)* - The information specified under (f)(1)(i) through (v) for labels on shipped containers; or,

*§1910.1200(f)(6)(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.

*§1910.1200(f)(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.

*§1910.1200(f)(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.

*§1910.1200(f)(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.

*§1910.1200(f)(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.

*§1910.1200(f)(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.

### **Safety Data Sheets §1910.1200(g)**

*§1910.1200(g)(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.

*§1910.1200(g)(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.)

§1910.1200(g)(2)(i) - Section 1, Identification;

§1910.1200(g)(2) (ii) - Section 2, Hazard(s) identification;

§1910.1200(g)(2) (iii) - Section 3, Composition/information on ingredients;

§1910.1200(g)(2) (iv) - Section 4, First-aid measures;

§1910.1200(g)(2) (v) - Section 5, Fire-fighting measures;

§1910.1200(g)(2) (vi) - Section 6, Accidental release measures;

§1910.1200(g)(2)(vii) - Section 7, Handling and storage;

§1910.1200(g)(2)(viii) – Section 8, Exposure controls/personal protection;

§1910.1200(g)(2)(ix) - Section 9, Physical and chemical properties;



§1910.1200(g)(2)(x) - Section 10, Stability and reactivity;

§1910.1200(g)(2)(xi) - Section 11, Toxicological information.

Note 1 to paragraph (g)(2): To be consistent with the GHS, an SDS must also include the following headings in this order:

Section 12, Ecological information;

Section 13, Disposal considerations;

Section 14, Transport information; and

Section 15, Regulatory information.

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.

§1910.1200(g)(2)(xii) - Section 16, Other information, including date of preparation or last revision.

*§1910.1200(g)(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.

*§1910.1200(g)(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).

OSHA does not believe the modification to the SDS will change the frequency that employees and OSHA will ask to access the records required by the Standard.

### **Trade Secrets (§1910.1200(i))**

Chemical manufacturers, importers, or employers who withhold the specific chemical identity or the exact concentration, must immediately disclose the chemical identity or exact concentration where a treating physician or nurse determines that a medical emergency exists and that information is necessary for emergency or first-aid treatment. Chemical manufacturers, importers, or employers generating a SDS, may request a

written statement of need and confidentiality in accordance with paragraphs (i)(3) and (i)(4) of the Standard as soon as circumstances permit.

In non-emergency situations, chemical manufacturers, importers, withholding specific chemical identity or exact percentage must disclose the hazardous chemical identity or exact percentage to a health professional providing the medical or other occupational health services to exposed workers, provided the request in writing. The request must describe with reasonable detail one of the items in paragraphs (i)(3)(ii). If the health professional, worker, or designated representative who receives the trade secret information chooses to provide the information to OSHA, they must inform the chemical manufacturer, importer, or employers who prepare SDSs that they are providing the information to OSHA.

Chemical manufacturers, importers, or employers who prepare SDSs, may prepare a written denial for disclosure of specific chemical identity or exact percentage. Written denials must contain the information stated in paragraph (i)(7) of the Standard.

**3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.**

To the extent practical, OSHA standards minimize burdens on employers, including technical and legal burdens. OSHA is aware that employers have developed a number of options to sort, collect, and store hazard communication information, and that many software programs have been marketed to assist employers in accomplishing these tasks. The Standard allows for electronic access, and other alternatives to maintaining paper copies of the SDSs, so long as no barriers to immediate employee access are created by such options. There are no known technical or legal obstacles to reducing the information collection burden through improved information technology.

**4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

Within the U.S., several regulatory authorities exercise jurisdiction over chemical hazard communication. In addition to OSHA's HCS, the Department of Transportation (DOT) regulates chemicals in transport, the Consumer Product Safety Commission (CPSC) regulates consumer products, and the Environmental Protection Agency (EPA) regulates pesticides, as well as having other authority over labeling under the Toxic Substances Control Act. Each of these regulatory authorities operates under different statutory mandates, and has adopted distinct hazard communication requirements.

Tracking the hazard communication requirements of different regulatory authorities is a burden for manufacturers, importers, distributors, and transporters engaged in commerce in the domestic arena. This burden is magnified by the need to develop multiple sets of labels and safety data sheets for each product in international trade. Small businesses

may have particular difficulty in coping with the complexities and costs involved. The problems associated with differing national and international requirements were recognized and discussed when the HCS was first issued in 1983. The preamble to the final rule included a commitment by OSHA to review the standard regularly to address international harmonization of hazard communication requirements.

OSHA has actively participated in a number of such efforts in the years since that commitment was made, including trade-related discussions on the need for harmonization with major U.S. trading partners. The Agency also issued a Request for Information (RFI) in the Federal Register in January 1990 to obtain input regarding international harmonization efforts, and on work being done at that time by the International Labor Organization (ILO) to develop a convention and recommendations on safety in the use of chemicals at work (55 FR 2166, January 22, 1990). On a closely related matter, OSHA published an RFI in May 1990 requesting comments and information on improving the effectiveness of information transmitted under the HCS (55 FR 20580, May 17, 1990). Possible development of a standardized format or order of information was raised as an issue in the RFI. Nearly 600 comments were received in response to this request. The majority of responses expressed support for a standard SDS format, and the majority of responses that expressed an opinion on the topic favored a standardized format for labels as well.

In June 1992, the United Nations Conference on Environment and Development issued a mandate (Chapter 19 of Agenda 21), supported by the U.S., calling for development of a globally harmonized chemical classification and labeling system:

A globally harmonized hazard classification and compatible labelling system, including material safety data sheets and easily understandable symbols, should be available, if feasible, by the year 2000.

This international mandate initiated a substantial effort to develop the GHS, involving numerous international organizations, many countries, and extensive stakeholder representation.

A coordinating group comprised of countries, stakeholder representatives, and international organizations was established to manage the work. This group, the Inter-organization Programme for the Sound Management of Chemicals Coordinating Group for the Harmonization of Chemical Classification Systems, established overall policy for the work and assigned tasks to other organizations to complete. The Coordinating Group then took the work of these organizations and integrated it to form the GHS. OSHA served as chair of the Coordinating Group.

The work was divided into three main parts: classification criteria for physical hazards; classification criteria for health and environmental hazards (including criteria for mixtures); and hazard communication elements, including requirements for labels and safety data sheets. The criteria for physical hazards were developed by the United Nations Subcommittee of Experts on the Transport of Dangerous Goods and were based

on the already harmonized criteria for the transport sector. The criteria for classification of health and environmental hazards were developed under the auspices of the Organization for Economic Cooperation and Development. The ILO developed the hazard communication elements. OSHA participated in all of this work, and served as U.S. lead on classification of mixtures and hazard communication.

Four major existing systems served as the primary basis for development of the GHS. These systems were the requirements in the U.S. for the workplace, consumers and pesticides; the requirements of Canada for the workplace, consumers and pesticides; European Union directives for classification and labeling of substances and preparations; and the United Nations Recommendations on the Transport of Dangerous Goods. The requirements of other systems were also examined as appropriate, and taken into account as the GHS was developed. The primary approach to reconciling these systems involved identifying the relevant provisions in each system; developing background documents that compared, contrasted, and explained the rationale for the provisions; and undertaking negotiations to find an agreed approach that addressed the needs of the countries and stakeholders involved. Principles to guide the work were established, including an agreement that protections of the existing systems would not be reduced as a result of harmonization. Thus countries could be assured that the existing protections of their systems would be maintained or enhanced in the GHS.

An interagency committee under the auspices of the Department of State coordinated U.S. involvement in the development of the GHS. In addition to OSHA, DOT, CPSC, and EPA, there were a number of other agencies involved that had interests related to trade or other aspects of the GHS process. Different agencies took the lead in various parts of the discussions. Positions for the U.S. in these negotiations were coordinated through the interagency committee. Interested stakeholders were kept informed through e-mail dissemination of information, as well as periodic public meetings. In addition, the Department of State published a notice in the Federal Register that described the harmonization activities, the agencies involved, the principles of harmonization, and other information, as well as invited public comment on these issues (62 FR 15951, April 3, 1997). Stakeholders also actively participated in the discussions at the international level and were able to present their views directly in the negotiating process.

The GHS was formally adopted by the new United Nations Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labeling of Chemicals in December 2002. In 2003, the adoption was endorsed by the Economic and Social Council of the United Nations. The GHS will be updated as necessary to reflect new technology and scientific developments, or provide additional explanatory text. This final rule is based on Revision 2 of the GHS, published in 2007.

OSHA published an Advance Notice of Proposed Rulemaking (ANPR) on the GHS in September of 2006 (71 FR 53617, September 12, 2006). The ANPR provided information about the GHS and its potential impact on the HCS, and sought input from the public on issues related to GHS implementation. Over 100 responses were received, and the comments and information provided were taken into account in the development of the

modifications to the HCS included in this proposed rule. At the same time the ANPR was published, OSHA made a document summarizing the GHS available on its website (<http://www.osha.gov>).

OSHA remains engaged in a number of activities related to the GHS. The U.S. is a member of both the United Nations Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labeling of Chemicals, as well as the Subcommittee of Experts on the Globally Harmonized System of Classification and Labeling of Chemicals. These permanent UN bodies have international responsibility for maintaining, updating as necessary, and overseeing the implementation of the GHS. OSHA and other affected Federal agencies actively participate in these UN groups. In addition, OSHA, EPA and the Department of State also participate in the GHS Program Advisory Group under the United Nations Institute for Training and Research (UNITAR). UNITAR is responsible for helping countries implement the GHS, and has ongoing programs to prepare guidance documents, conduct regional workshops, and implement pilot projects in a number of nations. OSHA also continues to be involved in interagency discussions related to coordination of domestic implementation of the GHS, and in discussions related to international work to implement and maintain the GHS.

OSHA's basis for adopting the GHS arose due to both domestic and international regulatory concerns. The first concern was the thresholds used to classify chemicals are sometimes inconsistent from one country to another and from one federal agency to another. This usually results in chemicals being classified into entirely different hazard classes by different entities. These differences cause confusion among workers who rely on information by several different federal agencies and cannot easily determine what precautionary steps they must take while handling, distributing, and storing hazardous chemicals. The second concern is the performance-oriented requirements of the existing hazard communication standard do not specify how the information should be presented in SDSs have led manufacturers to provide widely varying and confusing information about identical chemicals. The new standard requires that the content and format of SDSs and labels for workplace chemical conform to the uniform GHS requirements.

**5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-1), describe any methods used to minimize burden.**

OSHA has analyzed the potential impact of the final rule on small entities, and has prepared a Regulatory Flexibility Analysis (RFA) in conjunction with this rulemaking to describe the potential effects on small entities. As a result of the analysis of the potential impact on small entities, OSHA concludes and certifies that the rulemaking will not have a significant impact on a substantial number of small entities.

**6. Describe the consequences to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

The information required under the HCS concerning the hazards of chemicals and appropriate protective measures reduce the incidence of chemical-source illnesses and

injuries in workers exposed to chemical hazards. Making this information available to workers provides some protection to them in the absence of substance-specific rules; the vast majority of hazardous chemicals to which workers are exposed are not regulated by a substance-specific standard. A reduction in the number of incidents of chemical-source illnesses and injuries in workers exposed to chemical hazards occur from the improved protections implemented by employers because of the HCS, and from workers who understand these measures better and, therefore, will take effective steps to protect themselves.

**7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**

**requiring respondents to report information to the agency more often than quarterly;**

**requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**

**requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**

**in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**

**requiring the use of a statistical data classification that has not been reviewed and approved by OMB:**

**that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential uses; or**

**requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

No special circumstances exist that require employers to collect information using the procedures specified by this item. The requirements of the Standard are within the guidelines set forth in 5 CFR 1320.5.

**8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.**

**Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.**

**Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years – even if the collection of information activity is the same as in prior periods. There may be**

**circumstances that may preclude consultation in a specific situation. These circumstances should be explained.**

The revisions to the existing HCS contain collection of information (paperwork) requirements are subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (PRA-95), 44 U.S.C. 3501 *et seq.*, and OMB's regulations at 5 CFR part 1320. The collection of information requirements associated with these revisions have been submitted to OMB in a revised *Hazard Communication (29 CFR parts 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21)* ICR, OMB Control Number 1218-0072.

As discussed under Item 4 of this Supporting Statement, OSHA has worked extensively with other Federal and International government agencies and organizations in developing the GHS rule. The Agency also issued a Request for Information (RFI) in the Federal Register in January 1990 to obtain input regarding international harmonization efforts, and on work being done at that time by the International Labor Organization (ILO) to develop a convention and recommendations on safety in the use of chemicals at work (55 FR 2166, January 22, 1990). On a closely related matter, OSHA published an RFI in May 1990 requesting comments and information on improving the effectiveness of information transmitted under the HCS (55 FR 20580, May 17, 1990). Possible development of a standardized format or order of information was raised as an issue in the RFI.

OSHA published an Advance Notice of Proposed Rulemaking (ANPR) on the GHS in September of 2006 (71 FR 53617, September 12, 2006). The ANPR provided information about the GHS and its potential impact on the HCS, and sought input from the public on issues related to GHS implementation.

In addition, OSHA published a Notice of Proposed Rulemaking (NPRM) on GHS in September 30, 2009 (74 FR 50279). This NPRM received over 100 comments. Commenters represented the broad spectrum of affected parties and included government agencies, industries, professional and trade associations, academics, employee organizations, and individuals. Public hearings were held in Washington, DC, from March 2 through March 5, 2010, and in Pittsburgh, PA, on March 31, 2010. Over 40 panels participated in the hearings. The comments, testimony, and other data received regarding this rulemaking were overwhelmingly favorable.

**9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.**

The Agency will not provide payments or gifts to the respondents.

**10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.**

The HCS requires that the specific chemical identity of a hazardous chemical be disclosed, but if such information is a valid trade secret, the rule permits chemical producers importers to limit disclosure of this information based on their need and ability

to maintain confidentiality (See 29 CFR 1910.1200 paragraph (i)).

In addition to the provisions of this rule, the OSH Act requires the Agency to maintain the confidentiality of trade secret information provided directly to its representatives (29 U.S. C. 664).

- 11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.**

The paperwork requirements specified by the Standard do not require collection of sensitive information.

- 12. Provide estimates of the hour burden of the collection of information. The statement should:**

**Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance.**

**Generally, estimates should not include burden hours for customary and usual business practices. If this request for approval covers more than one form, provide separate hour burden estimates for each form.**

**Provide estimates of annualized cost to respondents for the hour burdens for collection of information, identifying and using appropriate wage rate categories. The cost of Contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 13.**

## **Burden Hour and Cost Determination**

### **Explanation of Method of Estimating the Annual Burden**

OSHA is modifying the HCS to make it consistent with the GHS. A number of countries around the world have developed standards requiring transmittal of information to users or handlers of chemicals. While similar to requirements in the United States, the variations result in different labels and SDSs for the same chemicals, missing or incomplete information on imported chemicals may lead to reduced protections for our own citizens. In addition, the large number of varying requirements around the world may result in potential barriers to trade in chemicals, particularly for small businesses. Thus, a harmonized and consistent approach to chemical-hazard information will benefit both in protection and trade. For countries that do not have existing systems, and may not have the resources to develop and maintain one, a globally harmonized approach will allow them to provide necessary protections for their citizens while participating in international trade. OSHA is revising the currently approved ICR to reflect the final rule.



OSHA is maintaining some of the previous assumptions for this ICR that rely on an older RIA. During the GHS rulemaking, OSHA obtained new data, and has revised the economic assumptions to update this ICR.

### **Exhibit A. Basic Values for the Analysis**

Exhibit A-1 shows the basic values used in this analysis. These values were derived as follows:

**Number of affected establishments:** The number of affected establishments is based on the data from the HCS/GHS final economic analysis, “the FEA.”

**New establishments as a percentage of all establishments (rate of entry):** The number of affected new establishments is based on the FEA.

**Total Number of Workers:** The total number of workers is based on the FEA.

**Number of chemical products:** The number of chemical products was taken from the FEA.

**Percentage of new chemical products annually:** Based on the RIA, new chemical products are assumed to be 8 percent of all chemical products.

**Number of chemical products per establishment:** The RIA estimated that the typical manufacturing establishment has 22 hazardous chemicals, and that the typical non-manufacturing establishment has 15 hazardous chemicals.

**Number of Shipped Containers of Hazardous Chemicals:** Based on the FEA, the number of shipped containers of hazardous chemicals is 949 million.

**Number of in-plant containers:** The number of containers of hazardous chemicals used entirely in-plant was assumed to be 10 percent of the number of shipped containers of hazardous chemicals.

**Percentage of establishments already in compliance:** The RIA found that 60 percent of all establishments were in compliance with the basic provisions of the HCS, primarily as a result of state laws existing prior to the OSHA standard. Hence, HCS is assumed to account for (1-.6) or 40 percent of the burdens and costs since, in the absence of HCS, 60 percent of the burden would continue as a result of state statutes.

### **Compensation Wage Rates**

The Agency determined average wage rates using average hourly earnings, including benefits, to represent the cost of worker time. The Agency adopted the mean wage rates from “*May 2010 National Industry-Specific Occupational Employment and Wage*

*Estimates,*” U.S. Department of Labor, Bureau of Labor Statistics <http://stats.bls.gov/home.htm>. Total compensation for these occupational categories includes an adjustment of 30.0 percent (*Employment Costs Index, March 2011*) for fringe benefits; this figure represents the average level of fringe benefits in the private sector. The costs of labor used in this analysis are, therefore, estimates of total hourly compensation. These hourly wages are:

Supervisors/Managers	\$66.00
Logistic Workers	\$45.17
Clerical/Secretary	\$22.15

### **Exhibit A-1**

#### **Basic Values for the Analysis**

##### **Number of Affected Establishments**

Manufacturing	90,628
Non-Manufacturing	5,312,650

##### **New Establishments as a percentage of all Establishments**

Manufacturing	6,525 (7.2%)
Non-Manufacturing	674,707 (12.7%)

**Total Workers** 129,924,808

**Number of Chemicals Products** 1,414,636

**Percentage of New Chemicals Products Annually** 8.0%

##### **Number of Hazardous Chemicals Products per Establishment**

Manufacturing	22
Non-Manufacturing	15

**Number of Shipped Containers of Hazardous Chemicals** 949,000,000

**Number of In-Plant Containers** 94,900,000

**Percentage of Establishments Already in Compliance as a Result of State Standards** 60%<sup>5</sup>

---

<sup>5</sup> The Agency uses 40% in burden hour and cost equations to reflect that 60% of the establishments already in compliance with State law.

## **Exhibit B.**

### **Provision Estimates of Burden**

#### **1. Written Hazard Communication Programs (§ 1910.1200(e)) (New Establishments)**

Written Hazard Communication Program: All affected establishments must have a written hazard communication program explaining how the establishment meets the criteria of the standard with respect to labeling, safety data sheets (SDSs), and worker information and training as discussed under paragraph (e) of the standard. The RIA estimates manufacturing plants take an average of 5 hours (4 professional hours and 1 clerical hour) to develop a written hazard communication program while non-manufacturing facilities take an average of 2.5 hours (2 hours professional and .5 clerical).

To determine the total number of *new* manufacturing and non-manufacturing establishments the agency multiplied the total number of manufacturing and non-manufacturing establishments by the rate of entry.

In addition, since sixty percent of establishments were in compliance prior to the promulgation of the HCS as a result of State Standards, the total number of new establishments was multiplied by 40% to reflect burden hours and costs attributed to the HCS.

#### Number of new establishments affected:

New manufacturing establishments:  $90,628 \text{ manufacturing establishments} \times .072 \text{ (rate of entry)} \times 40\% = 2,610 \text{ affected new manufacturing establishments.}$

New non-manufacturing establishments:  $5,312,650 \text{ non-manufacturing establishments} \times .127 \text{ (rate of entry)} \times 40\% = 269,883 \text{ affected new non-manufacturing establishments}$

#### **Burden Hours and Costs:**

##### Manufacturing:

##### **Burden hours:**

$2,610 \text{ affected new establishments} \times 4 \text{ hours professional} = 10,440 \text{ hours}$

$2,610 \text{ affected new establishments} \times 1 \text{ hour clerical} = 2,610 \text{ hours}$

**Total burden hours = 13,050 hours**

##### **Cost:**

$10,440 \text{ hours} \times \$66.00 \text{ professional wage rate hour} = \$689,040$

$2,610 \text{ hours} \times \$22.15 \text{ clerical wage rate} = \$57,812$

**Total cost = \$746,852**

Non-Manufacturing:

**Burden hours:**

269,883 affected new establishments x 2 hours professional = 539,766 hours

269,883 affected new establishments x .5 clerical = 134,942 hours

**Total burden hours = 674,708 hours**

**Cost:**

539,766 hours x \$66.00 professional wage rate = \$35,624,556

134,942 hours x \$22.15 clerical wage rate = \$2,988,965

**Total cost: \$38,613,521**

Total Burden Hours and Costs:

	<u>Manufacturing</u>	<u>Non- Manufacturing</u>	<u>TOTAL</u>
<b>Burden hours:</b>	13,050	674,708	687,758
<b>Cost:</b>	\$746,852	\$38,613,521	\$39,360,373

**2. Written Hazard Communication Program (§ 1910.1200(e))  
(Existing Establishments)**

OSHA estimates existing manufacturing establishments take 1 hour and non-manufacturing establishments .5 hour to update and maintain their hazard communication programs. Forty percent of the establishments incur burden hours and costs as a result of the HCS.

Number of Existing Establishments Affected:

Existing manufacturing establishments affected: 90,628 manufacturing establishments x 40% = 36,251 affected establishments; 36,251 affected establishments - 2,610 new manufacturing establishments affected = 33,641 existing establishments affected.

Existing non-manufacturing establishments affected: 5,312,650 non-manufacturing establishments x 40% = 2,125,060 affected establishments; then 2,125,060 affected establishments - 269,883 new non-manufacturing establishments affected = 1,855,177 existing establishments affected.

Manufacturing:

**Burden hours:** 33,641 existing establishments x 1 hour = 33,641 hours

**Cost:** 33,641 hours x \$66.00 = \$2,220,306

Non-Manufacturing:

**Burden hours:** 1,855,177 establishments x .5 hour = 927,589 hours

**Cost:** 927,589 hours x \$66.00 = \$61,220,874

Total Burden hours and costs

	Manufacturing	Non- Manufacturing	TOTAL
<b>Burden hours:</b>	33,641	927,589	961,230
<b>Costs:</b>	\$2,220,306	\$61,220,874	\$63,441,180

**3. Hazard Classification (§ 1910.1200(d))**

Chemical manufacturers and importers must evaluate chemicals produced in their workplaces or imported by them to classify the chemicals in accordance with the standard. For each chemical, the chemical manufacturer or importer must 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. On average, a professional takes 8 hours to conduct the hazard classification and to develop the necessary labels and SDSs.

The total number of affected chemical products 565,854 is determined by multiplying the total number of chemical products 1,414,636 by 40 percent. The percentage of new chemical products annually is 8% of the total affected chemical products which is 45,268.

**Burden hours:** 45,268 new hazardous products x 8 hours = 362,144 hours

**Cost:** 362,144 hours x \$66.00 = \$23,901,504

**4. Sending of SDSs (§ 1910.1200(g))**

**(Sending SDSs for new hazardous chemicals to existing establishments)**

Manufacturers, importers, or employers distributing hazardous chemicals or products must send SDSs to establishments receiving the hazardous chemical or product. OSHA estimates a manufacturer, importer, or employer generating the SDS takes .14 clerical hours to distribute a SDS. Only 8% of the hazard chemicals will be new annually.

To determine the number of new hazardous chemicals existing establishments receive, OSHA estimated that, on average, each manufacturing establishment has 22 hazardous chemicals. Therefore, the number of new chemicals per manufacturing establishment averages 1.76 new chemicals.

Manufacturing:

**Burden hours:** 33,641 establishments x 1.76 new hazardous chemicals x .14 hour =  
8,289 hours  
**Cost:** 8,289 hours x \$22.15 = \$183,601

For non-manufacturing establishments, there are 15 hazardous chemicals, assuming an eight percent new chemical rate; the number of new chemicals for non-manufacturing establishments is 1.2.

Non-Manufacturing:

**Burden hours:** 1,855,177 establishments x 1.2 new hazardous chemicals x .14 hour =  
311,670 hours  
**Cost:** 311,670 hours x \$22.15 = \$6,903,491

**Total Burden hours and cost:**

	Manufacturing	Non- Manufacturing	Total
<b>Burden Hours:</b>	8,289	311,670	319,959
<b>Cost:</b>	\$183,601	\$6,903,491	\$7,087,092

**5. Sending of SDSs (§ 1910.1200(g))  
(Sending SDSs for all hazardous chemicals to new establishments)**

Manufacturers, importers, or employers developing SDSs, must distribute SDSs to new establishments for all initial hazardous chemicals and for new chemical products they may receive during the year. The clerical time required to send SDSs to new establishments is the same as for existing establishments, .14 hours. OSHA recognizes that the time it takes for manufacturers, importers, or employers to transmit SDSs is overestimated because some are sent electronically.

OSHA estimates that the new manufacturing establishments receive an average of 22 SDSs; 22 hazardous chemicals for purchasing initially, plus the 1.76 for the new hazardous chemicals establishments purchases annually.

Manufacturing:

**Burden hours:** 2,610 new establishments x 23.76 hazardous chemicals x .14 hour =  
8,682 hours  
**Cost:** 8,682 hours x \$22.15 = \$192,306

Non-manufacturing establishments receive an estimated 16.2; (15 SDSs x 1.2 new hazardous chemicals)

Non-manufacturing:

**Burden hours:** 269,883 new non-manufacturing establishments x 16.2 hazardous chemicals x .14 hour = 612,095 hours

**Cost:** 612,095 hours x \$22.15 = \$13,557,904

**Total Burden hours and cost:**

	Manufacturing	Non-Manufacturing	Total
<b>Burden Hours:</b>	8,682	612,095	620,777
<b>Cost:</b>	\$192,306	\$13,557,904	\$13,750,210

**6. Obtaining & Maintaining SDSs (§ 1910.1200(g))  
(Existing Establishments)**

All existing establishments that have hazardous chemicals must maintain SDSs, and may need to obtain SDSs. Smaller establishments or establishments with fewer chemicals spend less time to obtain and maintain SDSs, while larger companies, companies with a greater number of chemicals, and construction companies having to keep SDSs at various job sites take a greater amount of time obtaining and maintaining SDSs. To account for this variance in time, OSHA estimates an average of 1 hour of clerical time per establishment is needed to obtain and maintain SDSs. OSHA assumes 40 percent of the establishments incur burden hours and costs as a result of the HCS.

Manufacturing:

**Burden hours:** 33,641 existing establishments affected x 1 hour = 33,641 hours  
**Cost:** 33,641 hours x \$22.15 = \$745,148

Non-Manufacturing:

**Burden hours:** 1,855,177 existing establishments affected x 1 hour = 1,855,177 hours  
**Cost:** 1,855,177 hours x \$22.15 = \$41,092,171

Total Burden hours and costs:

	Manufacturing	Non-Manufacturing	TOTAL
<b>Burden hours:</b>	33,641	1,855,177	1,888,818
<b>Costs:</b>	\$745,148	\$41,092,171	\$41,837,319

**7. Obtaining & Maintaining SDS (§ 1910.1200(g))  
(New Establishments)**

All new establishments receive and maintain SDSs for hazardous chemicals at their locations. On occasion new establishments may need to obtain SDSs. A clerical worker spends an average of .14 hour per SDS to obtain and maintain the SDSs. The Agency recognizes that the .14 hour is an over estimate given numerous employers receive, obtain, and maintain SDSs electronically.

The number of new manufacturing establishments affected by the HCS is 2,610, and the number of new non-manufacturing establishments affected is 269,883 (see number 1 “Written Hazard Communication Program (New Establishments)).” OSHA estimates that new manufacturing establishments require a total of 23.76 SDSs, and non-manufacturing establishments require 16.2 SDSs. The burden hours are determined by multiplying the number of establishments by the total number of SDSs per establishment by the time to obtain and maintain SDSs.

Manufacturing:

**Burden hours:** 2,610 establishments x 23.76 SDSs x .14 hour = 8,682 hours  
**Cost:** 8,682 hours x \$22.15 = \$192,306

Non-Manufacturing:

**Burden hours:** 269,883 establishments x 16.2 SDSs x .14 hour = 612,095 hours  
**Cost:** 612,095 hours x \$22.15 = \$13,557,904

Total Burden hours and costs

	Manufacturing	Non-Manufacturing	TOTAL
<b>Burden hours:</b>	8,682	612,095	620,777
<b>Cost:</b>	\$192,306	\$13,557,904	\$13,750,210

**8. Labeling Shipping Containers (§ 1910.1200(f))**

There is no burden for affixing labels to off-site containers because it is usual and customary practice for manufacturers to affix labels to containers being shipped.

**9. Labeling of In-Plant Containers (§ 1910.1200(f)(5))**

Labeling in-plant containers: Employers must ensure that portable containers that are transferred from the workers who filled them to other workers are labeled. It is estimated that approximately 12 seconds (.0033 hour) of workers time per container. OSHA assumes 40 percent of the containers incur burden hours and costs as a result of the HCS.

**Burden hours:** 94,900,000 (# of containers) x 40% x .0033 hours per container = 125,268 hours  
**Cost:** 125,268 hours x \$45.17 (worker) = \$5,658,356

**10. Access to Trade Secrets (§ 1910.1200(i))**

Burden hours are estimated for employers to respond to requests from workers, their representatives, and health professionals for trade secret information. The Agency estimates an average of 7 situations requiring access to trade secrets per 10,000 workers working in establishments with hazardous chemicals. OSHA estimates there are



129,924,808 workers<sup>6</sup> covered by the HCS, therefore, the Agency estimates there are 63,656 access requests (129,924,808 workers/10,000 workers x 7 situations ), and that a professional requires 4 hours to respond to each request.

**Burden hours:** 90,947 requests x 4 hours = 363,788 hours

**Cost:** 363,788 hours x \$66.00 = \$24,010,008

### **11. Employee Access (§ 1910.1200(d)(c) and §1910.1200(e)(4))**

OSHA estimates an average of 1.5 requests per establishment for worker access to the written programs and SDSs. OSHA estimates a clerk takes 10 minutes (.167 hour) to show the worker the relevant documents and to return them to a file after the worker has examined them. OSHA assumes 40 percent of the establishments (5,403,378 establishments x 40% = 2,161,311 establishments) incur burden hours and costs for providing workers access as a result of the HCS.

**Burden hours:** 2,161,311 establishments x 1.5 requests x .167 hour = 541,408 hours

**Cost:** 541,408 hours x \$22.15 = \$11,992,187

### **12. Federal Access**

The HCS permits OSHA to access the following records: Hazard classifications, § 1910.1200(d)(6); written hazard communication programs, § 1910.1200 (e)(4); safety data sheets § 1910.1200(g)(11); and trade secrets § 1910.1200(i)(12).

OSHA estimates employers spend approximately 5 minutes (.08 hour) of professional time to inform the compliance officer about the location of the various records during an inspection. The Agency estimates a total of 75,646<sup>7</sup> inspections are conducted annually by Federal OSHA and State-Plan State delegate agencies.

**Burden hours:** 75,646 inspections x .08 hour = 6,052 hours

**Cost:** 6,052 hours x \$66.00 = \$399,493

## **THE BURDEN HOURS AND COSTS ASSOCIATED WITH THE GLOBAL HARMONIZATION**

The burden hours and costs associated with compliance with the final revisions to the HCS will be incurred by the affected establishments as a one-time transition burden over the phase-in period of three years. The methodology used for estimating the number of burden hours and costs resulting from the collections of information requirements of the Standard are discussed below. The burden hour estimates and cost estimates, including wage rates, are taken from the Final Economic Analysis (FEA) for the modifications to

---

<sup>6</sup> Estimate of 129,924,808 total workers comes from FEA.

<sup>7</sup> The Agency estimated the number of inspections by determining the inspection rate (1.4%) for all establishments under the jurisdiction of the OSH Act (including both Federal OSHA and approved state-plan agencies), and then multiplied the total number of plants covered by the Standard (5,403,278) by this percentage (i.e., 5,403,278 plants x 1.4% = 75,646).

the HCS.

The HCS covers workplaces in which employees are potentially exposed to hazardous chemicals. For establishments producing hazardous chemicals, which are generally part of the chemical manufacturing industry, the revisions to the standard would involve reclassifying chemicals in accordance with the new classification system and revising safety data sheets (SDSs) and labels associated with hazardous chemicals, and affixing the new labels to containers holding the chemical and dispatching new SDSs with new shipments of chemicals. The agency's estimates of the number of employees covered by the standard are based on the determination that all production employees in manufacturing would be covered.

For firms with 500 or more employees, the Agency assumes an employer will spend 3 hours per SDS to reclassify their chemicals and change SDS's and labels to be compliant with the GHS regulation. The Agency based this time estimate on the actual experience of three firms, 2 firms that comply with the recent Japanese labeling regulations<sup>8</sup> and one large firm that currently uses a state-of-the-art database system.

In firms with 100-499 employees, the Agency estimates that an employer will spend a total of 5 hours per SDS to convert to the new system. This estimate includes time to obtain and reorganize the SDS's information into the 16 – section format, change the SDS and label formats, and input the data.

The number of firms with 20-99 employees will spend 7 hours per SDS to reclassify chemicals and make changes to SDSs and labels.

Firms with 1-19 employees will take 7 hours per SDS to reclassify their chemicals and revise their SDSs and labels.

OSHA is modifying existing labeling requirements contained in substance-specific health standards that would require employers to insert specific information currently not required on the label. These employers incur no burden hours and cost, under the Paperwork Reduction Act of 1995, since the Standard provides specific language for the required signs and labels.

**Table 1 – Standards with Modified Labeling Requirements.**

General Industry	
Safety Standard	OMB Control Number
Welding, Cutting, and Brazing 1910.252	1218-0207
Health Standard	OMB Control Number
Asbestos 1910.1001	1218-0133

<sup>8</sup> Several countries have already promulgated GHS-compliant regulations.

13 Carcinogens 1910.1003	1218-0085
Vinyl Chloride 1910.1017	1218-0010
Inorganic Arsenic 1910.1018	1218-0104
Lead 1910.1025	1218-0092
Chromium (VI) 1910.1026	1218-0252
Cadmium 1910.1027	1218-0185
Benzene 1910.1028	1218-0129
Coke Oven Emissions 1910.1029	1218-0128
Cotton Dust 1910.1043	1218-0061
1,2-dibromo-3-chloropropane 1910.1044	1218-0101
Acrylonitrile 1910.1045	1218-0126
Ethylene Oxide 1910.1047	1218-0108
Formaldehyde 1910.1048	1218-0145
Methylenedianiline 1910.1050	1218-0184
1,3-Butadiene 1910.1051	1218-0170
Methylene Chloride 1910.1052	1218-0179
Hazard Communication 1910.1200	1218-0072
<b>Construction Industry</b>	
<b>Health Standard</b>	<b>OMB Control Number</b>
Methylenedianiline 1926.60	1218-0183
Lead 1926.62	1218-0189
Asbestos 1926.1101	1218-0134
Chromium 1926.1126	1218-0252
Cadmium 1926.1127	1218-0186
<b>Maritime</b>	
<b>Health Standard</b>	<b>OMB Control Number</b>
Asbestos 1915.1001	1218-0195

Chromium (VI) 1915.1026	1218-0252
-------------------------	-----------

### 13. Revisions to the SDSs and Labeling Requirements

**Table 2 - Burden Hours and Costs for Revisions to Safety Data Sheets and Labeling Requirements**

Establishment Size	# of SDSs	Hours/SDS	Hourly Wage	Pre-Compliance %	% Not in Compliance	Total Burden Hours	Total Burden Cost
1-19	164,102	7	\$66	1%	99%	1,137,227	\$75,056,982
20-99	122,764	7	\$66	5%	95%	816,381	\$53,881,146
100-499	205,415	5	\$66	25%	75%	770,306	\$50,840,196
500+	922,355	3	\$66	75%	25%	691,766	\$45,656,556
<b>Total</b>	<b>1,414,636</b>					<b>3,415,680</b>	<b>\$228,434,880</b>

Employers will have three years to complete the final revisions to the HCS. Therefore, OSHA has annualized the burden hours and costs over a three year period, yielding **1,138,560** hours at a cost of **\$76,144,960**.

### 14. Familiarization and implementation of the revisions to the hazard communication program

#### Manufacturing:

In the FEA, OSHA estimates a health and safety managers and logistic personnel will need 8 hours to familiarize and implement the revisions of the hazard communication program in affected establishments in the manufacturing sector.

**Table 3 - Burden Hours and Costs for Health and Safety Managers:**

Establishment Size	# of H&S Managers	Hours/Manager	Hourly Wage	Pre-Compliance %	% Not in Compliance	Total Burden Hours	Total Burden Cost
1-19	0	8	\$130	1%	99%	0	\$0
20-99	1,150	8	\$130	5%	95%	8,740	\$1,136,200
100-499	1,347	8	\$130	25%	75%	8,082	\$1,050,660
500+	4,573	8	\$130	75%	25%	9,146	\$1,188,980
<b>Total:</b>						<b>25,968</b>	<b>\$3,375,840</b>

**Table 4 - Burden Hours and Costs for Logistics Personnel:**

Establishment Size	# of H&S Managers	Hours/Manager	Hourly Wage	Pre-Compliance %	% Not in Compliance	Total Burden Hours	Total Burden Cost
1-19	228,635	8	\$66	1%	99%	1,810,789	\$119,512,074
20-99	70,024	8	\$66	5%	95%	532,182	\$35,124,012
100-499	33,760	8	\$66	25%	75%	202,560	\$13,368,960
500+	72,584	8	\$66	75%	25%	145,168	\$9,581,088
<b>Total</b>						<b>2,690,699</b>	<b>\$177,586,134</b>

Non-Manufacturing:

OSHA estimates that it will take a safety and health supervisor outside of the manufacturing sector two hours to familiarize and implement the revisions of a very basic hazard communication program

**Table 5 - Burden Hours and Costs for Health and Safety Managers:**

Establishment Size	# of H&S Managers	Hours/Manager	Hourly Wage	Pre-Compliance %	% Not in Compliance	Total Burden Hours	Total Burden Cost
1-19	2,404,735	2	\$66	1%	99%	4,761,375	\$314,250,750
20-99	490,971	2	\$66	5%	95%	932,845	\$61,567,770
100-499	235,630	2	\$66	25%	75%	353,445	\$23,327,370
500+	693,968	2	\$66	75%	25%	346,984	\$22,900,944

**Total: 6,394,649 \$422,046,834**

**Table 6 - Burden Hours and Costs Health and Safety Managers and Supervisors in State and Local Governments :**

Establishment Size	# of H&S Managers	Hours/Manager	Hourly Wage	Total Burden Hours	Total Burden Cost
All	23,405	2	\$66	46,810	\$3,089,460

**TOTAL BURDEN HOURS = 25,968 + 2,690,699 + 6,394,649 + 46,810= 9,158,126**

**TOTAL COST= \$3,375,840 + \$177,586,134 + \$422,046,834 + \$3,089,460 = \$606,098,288**

Employers will have three years to comply with the revisions of the HCS. Therefore, OSHA has

divided the total burden hours and costs by three, yielding 3,052,709 hours at a cost of \$202,032,763.

**13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden show in Item 12 and 14).**

The cost estimate should be split into two components: (a) a total capital and startup cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.

If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rule making containing the information collection, as appropriate.

Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

**COSTS ASSOCIATED WITH THE GLOBAL HARMONIZATION:**

**Printer Cost:**

The cost to develop and transmit SDSs varies depending on transmission of SDSs. Many importers and manufacturers of hazardous chemicals send SDSs electronically. In these situations, there are no costs to importers and manufacturers to transmit the SDSs downstream to employers, including distributors. Importers and manufacturers also send paper copies of SDSs with their hazardous chemicals. The total estimated for color printer cost is \$24,074,395 for all establishments. See Table 7, *Summary of Printing Cost*, below.

Table 7 Summary of Color Printing Costs					
Size Category	Annualized Printer Cost per Label	Annualized Cartridge/Ribbon/Stock Costs per Label	Total Annualized Costs per Label	Total Annualized Costs per Establishment	Total Annualized Costs, All Establishments
<b>Category 1: Companies Printing Only B&amp;W and No Color Printer</b>					
Very Small	\$0.01	\$0.13	\$0.14	\$91.74	\$1,489,571
Small	\$0.01	\$0.13	\$0.13	\$570.41	\$2,552,483

Medium	\$0.01	\$0.01	\$0.01	\$142.02	\$321,896
Large	\$0.01	\$0.01	\$0.02	\$1,091.86	\$806,560
<b>Category 2: Companies Printing B&amp;W but Own Color Printer</b>					
Very Small	\$0.01	\$0.13	\$0.14	\$91.74	\$496,524
Small	\$0.00	\$0.13	\$0.13	\$551.81	\$823,074
Medium	\$0.00	\$0.01	\$0.01	\$123.42	\$93,242
Large	\$0.01	\$0.01	\$0.02	\$905.80	\$2,007,345
<b>Category 3: Companies Using Pre- Printed Stock/Labels</b>					
Very Small	\$-	\$0.03	\$0.03	\$22.28	\$482,349
Small	\$-	\$0.03	\$0.03	\$144.11	\$859,807
Medium	\$-	\$0.03	\$0.03	\$431.02	\$1,302,548
Large	\$-	\$0.03	\$0.03	\$1,738.06	\$12,839,037
<b>Category 4: Companies Printing Color Labels</b>					
Very Small	\$-	\$-	\$-	\$-	\$-
Small	\$-	\$-	\$-	\$-	\$-
Medium	\$-	\$-	\$-	\$-	\$-
Large	\$-	\$-	\$-	\$-	\$-
<b>Total</b>					\$24,074,395

1 – Includes the cost of printers annualized over five years and the cost of printing supplies incurred over a 20-year period beginning four years after the rule is published  
 \$ - entries indicated no costs, while \$0.000 entries are non-zero fractions of a penny

Source: Office of Regulatory Analysis, OSHA based on ERG (2011).

#### Software Cost:

Many of the employers in the 100-500+ firm categories will incur costs to purchase or modify software that can be used to classify chemicals and to produce corresponding SDSs and labels. This software is available from a variety of vendors and may be purchased used or on a subscription basis. In addition, some firms may purchase custom or proprietary software from private vendors to achieve compliance with existing or final revisions to hazard communication requirements. Based on industry data these costs were apportioned on a per-SDS basis and estimated to be \$208 per SDS, on average. The purchase of commercially available chemical management software cannot be justified for firms with fewer than 99 employees. Unless firms produce 250 products and changes their SDSs at least every three years, such a purchase would not be justifiable. Therefore, the Agency estimates that these firms will continue to rely on commonly used word processing or spreadsheet programs and will not incur any additional software costs. See Table 8.

**Table 8 Cost Estimates for Software**

Establishment Size	# of SDSs	Software Costs	% Purchasing Software	Pre-Compliance %	% Not in Compliance	Total Burden Cost
1-19	164,102	\$208	0%	0.01	0.99	\$0
20-99	122,764	\$208	0%	0.05	0.95	\$0

100-499	205,415	\$208	25%	0.25	0.75	\$32,044,740
500+	922,355	\$208	95%	0.75	0.25	\$47,962,460
<b>Total</b>	<b>1,414,636</b>					<b>\$80,007,200</b>

Employers will have three years to comply with the revisions of the HCS. Therefore, OSHA has divided the software cost by three for a total of \$26,669,066.

The total cost to the employer is \$24,074,395 + \$26,669,066 = **\$50,743,461**

- 14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.**

### **Cost to the Federal Government**

OSHA estimates that a compliance officer (GS-12, step 5), with an hourly wage rate of \$37.37,<sup>9</sup> spends about five minutes (.08 hour) during an inspection reviewing the documents required by the Standard. For purposes of calculating costs to the Federal government, the Agency assumes compliance officers request access to records required by the HCS during all inspections. Currently, OSHA estimates that approximately 75,646 inspections were conducted by Federal and State-plan States.

OSHA considers other expenses, such as equipment, overhead, and support staff salaries, to be normal operating expenses that would occur without the paperwork requirements specified by the Standards. Therefore, the total cost of these paperwork requirements to the Federal government is:

$$\text{Cost: } 75,646 \text{ inspections} \times .08 \text{ hour} \times \$37.37 = \$226,151$$

- 15. Explain the reasons for any program changes or adjustments.**

OSHA is requesting a program change increase of 4.2 million hours resulting from publication of the Hazard Communication - Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Revisions include: (1) revised criteria for classification of chemical hazards; (2) revised labeling provisions that include requirements for use of standardized signal words, pictograms, hazard statements, and precautionary statements; and (3) a specified format for safety data sheets. OSHA also is requesting an adjustment decrease of -3,877,725 resulting from using data from the Final Economic Analysis to update previous economic assumptions.

There is an increase in the cost to the employer of \$50,743,461, (from \$1,750,001 to \$50,743,461), a difference of \$48,993,001. The program change increase in cost is for purchasing new software for the safety data sheets and the cost of printing labels in color.

---

<sup>9</sup>Source: U.S. Office of Personnel Management; 2011 General Schedule (GS) Locality Pay Tables; Salary Table 2011-RUS, [http://www.opm.gov/oca/11tables/pdf/rus\\_h.pdf](http://www.opm.gov/oca/11tables/pdf/rus_h.pdf).



\

**Table 9**  
**Summary of Annual Burden and Cost**

<b>Information Collection Requirement</b>	<b>Existing Burden Hours</b>	<b>Requested Burden Hours</b>	<b>Type of Change Program Change (PC) or Adjustment (Adj.)</b>	<b>Estimated Costs</b>	<b>Responses</b>
1. Written Hazard Communication Program (New Establishments)	920,353	687,758	-232,595 (Adj)	\$39,360,373	544,986
2. Written Hazard Communication Program (Existing Establishments)	1,324,952	961,230	-363,722 (Adj)	\$63,441,180	1,888,818
3. Hazard Classification	241,984	362,144	120,160 (Adj)	\$23,901,504	45,268
4. Sending SDSs (Existing Establishments)	626,889	319,959	-306,930 (Adj)	\$7,087,092	2285420
5. Sending SDSs (New Establishments)	1,123,571	620,777	-502,794 (Adj)	\$13,750,210	4,434,119
6. Obtaining and Maintaining SDSs (Existing Establishments)	2,522,084	1,888,818	-633,266 (Adj)	\$41,837,319	1,888,818
7. Obtaining and Maintaining (New Establishments)	1,123,571	620,777	-502,794 (Adj)	\$13,750,210	4,434,119
8. Labeling Shipped Containers	0	0	0	\$0	0
9. Labeling of In-Plant Containers	1,464,002	125,268	-1,338,734 (Adj.)	\$5,658,356	37,960,000
10. Access to Trade Secrets	300,012	363,788	63,776 (Adj.)	\$24,010,008	90,947
11. Employee Access	720,221	541,408	-178,813 (Adj)	\$11,992,187	3,241,967
12. Federal Access	8,065	6,052	-2,013 (Adj.)	\$399,493	75,646
13. Revisions to the Safety Data Sheets and Labeling	0	1,138,560	1,138,560 (PC)	\$76,144,960	471,545
14. Familiarization and implementation of the revisions to the hazard communication program.	0	3,052,709	3,052,709 (PC)	\$202,032,763	4,260,782
<b>Burden Hour Adj.</b>		<b>6,497,979</b>	<b>-3,877,725</b>		
<b>Burden Hour PC</b>		<b>4,191,269</b>	<b>4,191,269</b>		
<b>TOTAL</b>	<b>10,375,704</b>	<b>10,689,248</b>	<b>313,544</b>	<b>\$523,365,655</b>	<b>61,595,144</b>

**16. For collection of information whose results will be published, outline plans for tabulation, and publication. Address any complex analytical techniques that will be used. Provide the time**

**schedule for the entire project, including beginning and ending dates of the collection of information completion of report, publication dates, and other actions.**

The information required to be collected by the Hazard Communication Standard will not have results that will be published for statistical use.

**17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.**

There are no forms associated with this collection of information on which to display an expiration date.

**18. Explain each exception to the certification statement.**

OSHA is not requesting an exception to the certification statement.

## **B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS**

These collection of information requirements employ no statistical methods.

Table 10  
Industry Profile

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
11	Agriculture, Forestry, Fishing & Hunting							
113	Forestry & Logging	10,303	10,303	10,491	10,491	64,445	17,638	0
114	Fishing, Hunting and Trapping	2,380	856	2,389	862	9,244	1,637	0
115	Support Activities for Ag & Forestry	10,271	4,412	10,765	4,895	100,513	12,278	0
211	Oil and Gas Extraction							
211111	Crude petroleum & natural gas extraction	6,424	6,424	7,221	7,221	133,286	82,953	56,995
211112	Natural gas liquid extraction	139	130	321	311	8,218	6,919	6,145
212	Mining (except Oil & Gas)	4,465	4,465	7,008	7,008	218,044	174,991	0
213	Support Activities for Mining	9,809	9,809	11,652	11,652	341,034	252,262	0
22	Utilities							
2211	Electric Power Gen, Trans & Distrib	1,687	1,687	9,611	9,611	503,134	245,715	0
2212	Natural Gas Distribution	507	507	2,283	2,283	79,354	34,240	0
2213	Water, Sewage, & Other Systems	3,998	3,998	4,780	4,780	40,269	21,875	0
23	Construction							
236	Construction of Buildings	242,322	242,322	244,862	244,862	1,672,254	1,148,424	0
237	Heavy Construction	49,228	49,228	51,421	51,421	1,016,407	617,651	0
238	Special Trade Contractors	508,722	508,722	515,169	515,169	4,579,222	3,610,532	0
31	Manufacturing							
311	Food Manufacturing	21,591	21,591	25,796	25,796	1,439,266	1,116,334	0
312	Beverage & Tobacco Prod. Manuf.	3,466	3,466	4,069	4,069	156,114	90,970	0
313	Textile Mills	2,690	2,690	3,092	3,092	164,082	138,640	0
314	Textile Product Mills	6,471	6,471	6,732	6,732	152,978	124,024	0
315	Apparel Manufacturing	10,151	10,151	10,368	10,368	350,439	275,995	0
316	Leather & Allied Product Manufac.	1,348	1,348	1,392	1,392	36,671	29,133	0
321	Wood Product Manufacturing	14,608	14,608	16,622	16,622	527,565	429,838	0

322	Paper Manufacturing	3,259	3,259	5,037	5,037	425,096	329,797	0
323	Printing and Related Support	31,655	31,655	33,281	33,281	631,771	461,828	0
324	Petroleum & Coal Prod. Manufac.							
324110	Petroleum refineries	258	258	374	374	64,263	39,080	26,740
324121	Asphalt paving mixture & block mfg	481	481	1,386	1,386	14,457	10,739	132,545

Table VI-2.

Industry Profile (continued)

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
324	Petroleum & Coal Prod. Manufac.							
324122	Asphalt shingle & coating materials mfg	126	126	229	229	11,598	8,503	18,415
324191	Petroleum lubricating oil & grease m	290	290	329	329	10,136	5,426	559,300
324199	All other petroleum & coal products mfg	72	72	90	90	3,123	2,370	5,030
325	Chemical Manufacturing							
325110	Petrochemical mfg	41	39	58	55	8,393	4,123	4,498
325120	Industrial gas mfg	89	60	553	60	304	192	4,877
325131	Inorganic dye & pigment mfg	71	59	92	65	2,649	1,713	833
325132	Synthetic organic dye & pigment mfg	90	90	107	107	5,128	2,867	2,308
325181	Alkalies & chlorine mfg	33	33	49	49	4,483	2,748	374
325182	Carbon black mfg	10	10	30	30	1,708	121	222
325188	All other basic inorganic chemical mfg	383	383	612	612	42,063	25,891	16,038
325191	Gum & wood chemical mfg	43	43	51	51	2,139	1,128	2,505
325192	Cyclic crude & intermediate mfg	26	26	31	31	5,074	2,979	356
325193	Ethyl alcohol mfg	222	222	245	245	5,957	4,334	2,545
325199	All other basic organic chemical mfg	541	541	712	712	68,867	39,150	25,119
325211	Plastics material & resin mfg	561	561	799	799	61,199	38,855	84,337
325212	Synthetic rubber mfg	127	127	150	150	8,455	6,053	1,801
325221	Cellulosic organic fiber mfg	16	16	17	17	2,365	1,876	21

325222	Noncellulosic organic fiber mfg	85	85	110	110	24,214	13,956	0
325311	Nitrogenous fertilizer mfg	132	132	157	157	1,117	772	202
325312	Phosphatic fertilizer mfg	30	30	41	41	688	483	65
325314	Fertilizer (mixing only) mfg	341	341	467	467	8,551	5,313	3,871
325320	Pesticide & other agricultural chemical mfg	185	185	241	241	10,668	5,868	5,758
325411	Medicinal & botanical mfg	342	342	366	366	27,475	13,584	3,610
325412	Pharmaceutical preparation mfg	798	798	1,002	1,002	158,124	68,144	12,765
325413	In-vitro diagnostic substance mfg	199	199	244	244	27,215	10,254	26,620
325414	Biological product (except diagnostic) mfg	221	221	314	314	28,525	13,544	3,236
325510	Paint & coating mfg	1,081	1,081	1,318	1,318	41,177	17,728	83,050
325520	Adhesive mfg	446	446	588	588	21,316	13,117	27,450

Table VI-2.

Industry Profile (continued)

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
325	Chemical Manufacturing							
325611	Soap & other detergent mfg	649	649	710	710	23,660	14,519	15,825
325612	Polish & other sanitation good mfg	507	507	551	551	16,670	9,207	11,014
325613	Surface active agent mfg	130	130	154	154	6,135	2,706	5,795
325620	Toilet preparation mfg	767	767	826	826	57,957	37,288	17,586
325910	Printing ink mfg	250	250	482	482	12,821	6,224	48,172
325920	Explosives mfg	50	50	77	77	5,431	4,236	2,204
325991	Custom compounding of purchased resin	477	477	588	588	21,942	13,686	5,169
325992	Photographic film, paper, plate, & chemical mfg	384	368	407	407	7,319	4,177	2,667
325998	All other miscellaneous chemical product & preparation mfg	1,091	1,091	1,246	1,246	35,765	20,617	48,145
326	Plastics and Rubber Products Man.	11,187	11,187	14,233	14,233	855,483	667,348	36,591
327	Nonmetallic Mineral Prod. Manufac.	11,351	11,351	17,472	17,472	472,128	370,139	45,544
331	Primary Metal Manufacturing	4,304	4,304	5,267	5,267	438,921	344,209	13,396

332	Fabricated Metal Prod. Manufac.	55,545	55,545	59,637	59,637	1,565,866	1,163,554	0
333	Machinery Manufacturing	23,736	23,736	26,198	26,198	1,137,540	701,517	0
334	Computer & Electronic Prod Man.	12,689	12,689	14,478	14,478	1,043,288	463,175	0
335	Electric Equipment, Appliance Man.	5,291	5,291	6,144	6,144	406,259	292,852	0
336	Transportation Equip. Manufacturing	10,708	10,708	12,857	12,857	1,574,147	1,127,395	0
337	Furniture & Related Product Man.	20,952	20,952	21,717	21,717	517,401	408,165	0
339	Miscellaneous Manufacturing	29,816	29,816	31,160	31,160	680,848	430,024	44,897
42	Wholesale Trade							
423	Durable Goods	178,898	178,898	247,339	247,339	3,395,277	956,215	0
424	Nondurable Goods	102,988	102,988	130,640	130,640	2,228,049	835,103	0
42469	Other Chemicals & Allied Products	6,169	6,169	9,647	9,647	103,928	38,954	0
4247	Petroleum & petroleum Products	4,890	4,890	7,024	7,024	94,845	35,549	0
42495	Paint, Varnish, & Supplies	1,207	1,207	2,183	2,183	19,875	7,449	0
44-45	Retail Trade							
441	Motor vehicle & parts dealers	94,291	94,291	127,331	127,331	1,938,266	660,987	0
442	Furniture & home furnishings stores	46,532	45,755	65,485	63,265	596,538	129,479	0

Table VI-2.

Industry Profile (continued)

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
44-45	Retail Trade							
443	Electronics & appliance stores	30,657	12,356	52,470	32,940	500,780	44,615	0
444	Building material & garden equipment & supplies dealers	62,011	62,011	88,304	88,304	1,373,961	284,191	0
445	Food & beverage stores	116,280	67,664	151,031	101,410	2,881,783	389,067	0
446	Health & personal care stores	43,864	43,864	89,406	89,406	1,069,187	423,319	0
447	Gasoline stations	66,431	39,008	115,533	86,524	888,705	96,582	0
448	Clothing & clothing accessories stores	67,035	6,754	155,371	29,316	1,648,157	29,316	0
451	Sporting goods, hobby, book, & music stores	41,057	10,899	60,145	28,027	639,694	34,108	0

452	General merchandise stores	10,460	3,163	47,456	40,015	2,897,472	198,992	0
453	Miscellaneous store retailers	97,730	43,045	123,374	66,575	813,827	87,799	0
454	Nonstore retailers	40,168	32,492	47,723	39,680	511,558	105,840	0
48-49	Transportation & Warehousing							
481	Air transportation	2,929	1,775	5,730	4,537	480,648	67,816	0
483	Water transportation	1,476	1,476	1,928	1,928	68,947	43,190	0
484	Truck transportation	106,632	106,632	121,419	121,419	1,476,397	1,191,682	0
485	Transit & ground passenger transportation	15,536	7,500	18,322	10,265	440,623	38,072	0
486	Pipeline transportation	241	241	2,775	2,775	42,445	20,810	0
487	Scenic & sightseeing transportation	2,680	1,944	2,781	1,979	17,747	4,351	0
488	Support activities for transportation	30,332	30,332	38,566	38,566	610,641	295,204	0
492	Couriers & messengers	8,073	8,073	13,845	13,845	569,190	367,737	0
493	Warehousing & storage	7,410	7,410	14,440	14,440	679,077	415,296	0
51	Information							
511	Publishing industries	22,876	16,911	31,508	25,398	1,034,709	152,798	0
512	Motion picture & sound recording industries	21,258	3,565	24,883	7,091	320,647	12,811	0
515	Broadcasting (except Internet)	5,108	2,098	10,415	7,292	293,968	11,379	0
516	Internet Publishing and Broadcasting	9,590	2,753	50,078	43,091	1,201,922	46,525	0
517	Telecommunications	2,400	426	2,746	731	46,627	977	0
518	Internet Service Providers, Web Search Portals, and Data Processing Services	11,613	2,669	19,922	8,960	446,781	9,362	0
519	Other Information Services	3,408	611	4,227	1,130	54,659	1,145	0

Table VI-2.

Industry Profile (continued)

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
52	Finance & Insurance							
521	Monetary authorities - central bank	68	27	104	62	19,919	567	0

522	Credit intermediation & related activities	66,462	6,003	232,716	15,948	3,226,219	15,948	0
523	Securities intermediation & related activities	57,933	2,107	90,065	4,566	942,086	4,566	0
524	Insurance carriers & related activities	138,876	14,205	181,528	48,000	2,326,944	48,000	0
525	Funds, trusts, & other financial vehicles (part)	2,213	389	3,678	1,038	33,396	1,098	0
53	<b>Real Estate &amp; Rental and Leasing</b>							
531	Real estate	270,268	218,115	312,524	257,057	1,554,163	482,590	0
532	Rental & leasing services	28,435	28,435	65,046	65,046	638,277	183,927	0
533	Lessors of intangible assets, except copyrighted works	2,476	802	2,568	888	31,735	1,687	0
54	<b>Professional, Technical &amp; Technical</b>							
5411	Legal services	181,525	4,757	191,351	5,435	1,206,577	5,435	0
5412	Accounting, tax return prep, bookkeeping, & payroll services	108,428	12,421	123,415	24,952	1,357,368	27,843	0
5413	Architectural, engineering, & related services	101,108	26,500	117,115	42,049	1,434,803	64,179	0
5414	Specialized design services	34,485	10,849	34,783	11,089	134,739	14,769	0
5415	Computer systems design & related services	104,469	6,144	116,769	11,112	1,297,710	11,112	0
5416	Management, scientific, & technical consulting services	143,228	26,431	151,766	34,479	1,015,109	63,181	0
5417	Scientific R&D Serv.	14,009	5,971	17,787	9,640	688,052	47,136	0
5418	Advertising & related services	36,980	13,199	40,275	16,329	445,590	37,736	0
5419	Other professional, scientific, & technical services	64,704	64,704	74,295	74,295	599,993	214,139	0
55	<b>Management of Companies</b>							
551111	Offices of bank holding companies	1,049	777	1,313	1,032	20,046	2,065	0
551112	Offices of other holding companies	7,438	4,423	8,238	5,198	178,577	18,393	0
551114	Corporate, subsidiary, & regional managing offices	20,807	19,949	41,092	40,201	2,922,779	301,043	0
56	<b>Adm and Support &amp; Waste Managmt</b>							



561	Administrative and Support Serv.	311,675	311,675	363,043	363,043	9,628,468	4,589,001	0
562	Wastemanagement & Remediation Serv.	17,156	17,156	21,458	21,458	355,193	248,661	0
61	Educational Services							
6111	Elementary & secondary schools	18,666	15,913	21,066	18,291	827,165	69,423	0
6112	Junior colleges	468	346	862	740	80,568	4,642	0

Table VI-2.

Industry Profile (continued)

NAICS Code	Industry	Total Number of Firms	Number of Affected Firms	Total Number of Establishments	Number of Affected Establishments	Total Employees	Employees to be Trained	Number of SDSs Produced
6113	Colleges, universities, & professional schools	2,456	2,091	4,022	3,657	1,572,333	185,456	0
6114	Business schools, & computer & management training	6,995	649	7,640	857	65,818	857	0
6115	Technical & trade schools	6,681	2,476	8,019	3,741	119,020	6,307	0
6116	Other schools & instruction	35,969	4,555	38,506	5,477	302,908	5,477	0
6117	Educational support services	6,071	973	6,781	1,557	71,573	1,814	0
62	Healthcare and Social Assistance							
621	Ambulatory health care services	467,925	467,925	547,183	547,183	5,817,039	3,423,528	0
622	Hospitals	4,164	4,164	7,352	7,352	5,477,818	3,846,705	0
623	Nursing & residential care facilities	34,648	34,648	75,606	75,606	3,043,133	1,941,252	0
624	Social assistance	113,068	88,641	154,090	129,034	2,459,657	332,342	0
71	Arts, Entertainment & Recreation							
711	Performing arts, spectator sports, & related industries	43,415	14,721	44,260	15,491	436,072	52,870	0
712	Museums, historical sites, & similar institutions	6,823	3,905	7,312	4,358	128,539	14,892	0
713	Amusement, gambling, & recreation industries	66,499	54,547	73,650	61,474	1,443,956	251,213	0
72	Accommodation & Food Services							
721	Accommodation	53,300	53,300	63,903	63,903	1,907,554	658,752	0
722	Foodservices & drinking places	423,999	71,510	568,586	127,312	9,657,310	127,312	0
81	Other Services							

811	Repair & maintenance	208,647	208,647	226,131	226,131	1,322,952	909,073	0
811121	Automotive body, paint, & interior repair & maintenance	34,683	34,683	35,850	35,850	222,381	152,810	0
812	Personal & laundry services	172,890	132,555	212,530	169,669	1,380,284	272,379	0
812320	Drycleaning & laundry services (except coin-operated)	23,180	20,821	26,370	23,120	167,447	33,043	0
812921	Photofinishing laboratories (except one-hour)	1,050	928	1,139	964	10,647	2,101	0
813	Religious/grantmaking/civic/professional & similar org	296,045	125,355	305,591	134,330	2,816,537	228,997	0
99	State and Local Government							
9992	State Government	n.a.	n.a.	n.a.	n.a.	2,242,536	324,618	0
9993	Local Government	n.a.	n.a.	n.a.	n.a.	6,706,471	1,841,671	0
Total		6,146,382	4,223,431	7,720,753	5,403,278	129,924,808	43,770,092	1,414,636
Total for firms producing SDSs		74,781	74,616	91,367	90,628	3,423,801	2,358,340	1,414,636
Total for firms not producing SDSs		6,071,601	4,148,815	7,629,386	5,312,650	126,501,007	41,411,752	0

