



## Global Harmonization of Hazard Classification and Labeling Systems

The United States and many other countries throughout the world have developed a Globally Harmonized System for the Classification and Labeling of Chemicals (GHS). The GHS is the culmination of more than a decade of work. After ten years of technical work and negotiation, a United Nations Economic and Social Council Subcommittee adopted the Globally Harmonized System for Classification and Labeling ("GHS") and recommended that it be disseminated throughout the world. By promoting common, consistent criteria for classifying chemicals and developing compatible labeling and safety data sheets, the Globally Harmonized System is intended to enhance public health and environmental protection, as well as reduce barriers to trade. Countries lacking systems for hazard classification and labeling are to adopt the GHS as the fundamental basis for national policies for the sound management of chemicals; countries that already have systems will align them with GHS. There were many individuals involved, from a multitude of countries, international organizations, and stakeholder organizations. Their work spanned a wide range of expertise, from toxicology to fire protection, and ultimately required extensive goodwill and the willingness to compromise, in order to achieve this system. The purpose of the GHS is to promote common, consistent criteria for classifying chemicals according to their health, physical and environmental hazards, and to encourage the use of compatible hazard labels, material safety data sheets for workers, and other hazard communication information based on the resulting classifications.

While criteria for classifying and labeling dangerous goods have been internationally harmonized through the United Nations Recommendations on the Transport of Dangerous Goods for purposes of transportation, harmonized requirements have not been established for purposes of environmental, worker or consumer safety regulations. Furthermore, a number of countries currently operate their own systems for classification and labeling, and companies must comply with differing requirements depending on where they do business. A harmonized system for all regulatory purposes will lead to greater regulatory consistency among countries and thereby promote safer transportation, handling and use of chemicals. Harmonized criteria, symbols and warnings will promote improved understanding of hazards and thus help to protect workers, consumers, and other potentially exposed populations. A more uniform, "harmonized" system will enhance safety, improve the level of compliance and reduce costs for companies involved in

developing, manufacturing, distributing, and transporting chemicals both internationally and domestically since it is envisioned that international and domestic regulations will be harmonized on the basis of the GHS in the future. Other GHS goals are to reduce animal testing now needed for compliance with divergent national systems, and to conserve scientific resources.

The goal of establishing "a globally harmonized classification and compatible labeling system, including material safety data sheets and easily understandable symbols by the year 2000." was set out in the report of the United Nations Conference on Environment and Development (UNCED) in 1992 (3-13 June 1992, Earth Summit, Rio de Janeiro, Brazil). This goal was later endorsed by both the Intergovernmental Forum on Chemical Safety (IFCS) and the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) which coordinates the actions of WHO, ILO, UNEP, FAO, UNIDO, UNITAR and the OECD aimed at implementing Chapter 19. In its adopted Agenda 21, more particularly in Chapter 19 regarding the environmentally sound management of toxic chemicals, UNCED identified harmonization of classification and labeling of chemicals as being one of six action programs, and has recommended that "...the International Programme on Chemical Safety (IPCS) should be the focal point for international cooperation on environmentally sound management of toxic chemicals".

The Organization for Economic Cooperation and Development (OECD), which includes most industrialized nations as members, coordinated the development of health and environmental hazard classification criteria. The United Nations Committee of Experts on the Transport of Dangerous Goods (UN COE), developed criteria for substances with physical hazards including explosives, flammable substances and reactive substances. The ILO served as the Secretariat for overall coordination of the harmonization effort and focused specifically on hazard communication activities. Each of these international organizations involved affected industries and other non-governmental organizations in their deliberations. Other participants included the Food and Agriculture Organization (FAO), the International Maritime Organization, the International Civil Aviation Organization, the United Nations Institute for Training and Research (UNITAR), the United Nations Industrial Development Organization (UNIDO) and the World Health Organization (WHO).

GHS hazard classification criteria were adopted by consensus for physical hazards and key health and environmental classes, such as acute toxicity, carcinogenicity, and developmental toxicity. For each of these hazard classes, standardized label elements -- including symbols, signal words and hazard statements -- have been developed and agreed on, along with a standard format and approach to how GHS information appears on safety data sheets. The GHS document includes

guidance on other issues relevant to implementation of the system, including product identifiers, confidential business information, and precedence of hazards.

The GHS is a voluntary system and does not impose binding treaty obligations on countries. However, to the extent that countries adopt the GHS into national regulatory requirements, it will be binding on the regulated community. The United Nations Institute for Training and Research (UNITAR) is working with a number of agencies (including ILO and OECD) and governments to help developing countries implement GHS. UNITAR has pilot implementation projects in South Africa, Sri Lanka, Senegal, and Zambia. This Capacity Building partnership for GHS Implementation was announced at WSSD in August 2002 and seeks additional participants. Further information is available at the UNITAR website at <http://www.unitar.org/cwm>, or by contacting Jonathan Krueger or Craig Boljkovac at 41-22-917-84-71. EST officers working with countries that could benefit from GHS may wish to inform UNITAR of interested parties, as well as potential sponsors. An implementation objective of January 1, 2008 has been established.

Within the United States, key federal agencies with responsibility for regulatory and international affairs have formed an interagency committee coordinated by the Department of State. Besides the Department of Transportation's Pipeline and Hazardous Materials Safety Administration other agencies which participate in the effort include the Consumer Product Safety Commission (CPSC), Department of Commerce, Food and Drug Administration (FDA), Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Office of the U.S. Trade Representative, Department of Agriculture, and National Institute of Environmental Health Sciences. The interagency committee and individual agencies have also solicited the participation of key private sector groups, companies and trade associations, worker representatives, health and safety professionals, and environmental and public interest groups.

With respect to the elements of the GHS which will be incorporated within the U.S. Hazardous Materials Regulations (HMR;49 CFR Parts 100-180), PHMSA plans to address the adoption of several elements of the GHS in an upcoming rulemaking. These elements will include the aspects of the GHS that directly affect the transport sector such as changes to the hazard classification criteria for toxic materials and flammable liquids. It is anticipated that these changes will be effective January 1, 2007 with a suitable transition period to allow for industry to make the needed adjustments to come into compliance with the new requirements. Changes to regulations concerning environmentally hazardous substances will be made under a separate rulemaking, as the relevant criteria adopted by the GHS Sub-Committee will need to be considered by the EPA. The UN Sub-Committee of Experts on the GHS, created under the auspices of ECOSOC, is the

permanent international body charged with maintaining, updating, and promoting implementation of the GHS. It reports to ECOSOC through the joint Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labeling of Chemicals.

While participants at the World Summit on Sustainable Development reflected on accomplishments since the Earth Summit in 1992, the adoption of Globally Harmonized System for Classification and Labeling marks tangible progress as the world strives to implement Agenda 21.

A number of informative web sites have been established to provide the public and industry with information relative to the GHS. These include For information concerning the US GHS interagency committee's efforts in harmonizing health and environmental criteria under the leadership of the OECD. This site facilitates participation and input by key private sector groups, companies and trade associations, worker environmental, health and safety professionals, and public interest groups in the GHS work which is being coordinated by the US Department of State. The site includes Q&As, a calendar of OECD Advisory Group activities, schedules for commenting on draft proposals and a listing of agency points of contact. The Inter-organization Programme for the Sound Management of Chemicals (IOMC) was established in 1995 to serve as a mechanism for coordinating efforts of intergovernmental organizations in the assessment and management of chemicals. The IOMC is designed to be a cooperative undertaking among six intergovernmental organizations; UNEP, WHO, ILO, FAO, OECD and UNIDO. The IOMC publishes a Calendar of Events to inform governments, intergovernmental organizations and non-governmental organizations on forthcoming events of the Participating Organizations in the area of chemical safety related to the programmes and work of Chapter 19, Agenda 21. The International Labour Organization, Occupational Safety and Health Branch has a web site which provides information on the background, basis, areas of harmonization, working documents and links to other sites. The ILO Working Group on Hazard Communication recently developed a document entitled "Proposed Harmonization of Chemical Hazard Communication in the Globally Harmonized System." This Document is the third and final stage of the ILO Working Group's consideration of harmonisation of chemical hazard communication. The document is provided in three parts covering 1) General principles; 2) Labeling procedures; and 3) Material Safety Data Sheet Options. In November 2001 the Governing Body of the ILO will meet to consider the outcome of the work. The document presents the basis for the new system and highlights the final issues to be resolved by the Working Group at its meeting in May 2001. Thereafter the system developed here will pass to the management of a new committee of experts within the

United Nations Committee of Experts on the Transport of Dangerous Goods and Globally Harmonised System of Classification and Labeling of Chemicals. By resolution 1999/65 of 26 October 1999 the United Nations Economic and Social Council decided to enlarge the mandate of the Committee of Experts on the Transport of Dangerous Goods by reconfiguring it into a Committee of experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labeling of Chemicals, and by creating, besides the Sub-Committee of Experts on the Transport of Dangerous Goods a new Sub-Committee of Experts on the Globally Harmonized System of Classification and Labeling of Chemicals. The mandate of the GHS Sub-Committee is to:

- (a) Act as custodian of the globally harmonized system of classification and labeling of chemicals, managing and giving direction to the harmonization process;
- (b) Keep the system up to date, as necessary, considering the need to introduce changes to ensure its continued relevance and practical utility, and determining the need for and timing of the updating of technical criteria, while working with existing bodies, as appropriate;
- (c) Promote understanding and use of the system and encourage feedback;
- (d) Make the system available for worldwide use and application;
- (e) Make guidance available on the application of the system, and on the interpretation and use of technical criteria to support consistency of application;
- (f) Prepare work programmes and submit recommendations to the Committee.

The mandate of the reconfigured Committee is to:

- (a) Approve the work programmes for the Subcommittees in the light of available resources;
- (b) Coordinate strategic and policy directions in areas of shared interests and overlap;
- (c) Give formal endorsement to the recommendations of the Subcommittees and provide the mechanism for channelling them to the Economic and Social Council;
- (d) Facilitate and coordinate the smooth running of the Subcommittees.

The GHS Sub-Committee held its two first sessions in 2001 (9-11 July 2001 and 12-14 December 2001). In September 2001, the IOMC Coordinating Group (CG/HCCS) finalized its work and handed over a first version of the GHS for consideration by the GHS Sub-Committee at its second session. This first version was explained to the GHS Sub-Committee through PowerPoint presentations by members of the Sub-Committee.

The GHS as described at the second session of the GHS Sub-Committee is just the beginning of global implementation. Those involved in its development believe that the system must be dynamic, and be revised and further improved as experience is gained in implementation. While national or regional governments are considered the primary audiences for the document at this point, sufficient context and guidance is provided for those in industry who will ultimately be implementing the national requirements that are adopted. The GHS Sub-Committee will review the document at its third and fourth session (10-12 July 2002 and 9-11 December 2002), and the GHS should be published as an official United Nations publication after formal endorsement by the Committee at its first session (11-13 December 2002). In future, the GHS Sub-Committee will provide additional guidance as needs arise, while maintaining stability in the system to encourage its adoption. Through its auspices, the GHS will be revised and updated to reflect national and regional experiences in implementing requirements into national and regional laws, as well as experiences of those doing the classification and labeling.

It is hoped that countries will adopt the GHS in the near future. Availability of information about chemicals, their hazards, and ways to protect people, will provide the foundation for national programs for the safe management of chemicals. Widespread management of chemicals in countries around the world will lead to safer conditions for the global population, while allowing the benefits of chemical use to continue. Harmonization will also have benefits in terms of facilitating international trade, by promoting greater consistency in the national requirements for chemical hazard classification and communication that companies engaged in international trade must meet. UNITAR, in co-operation with ILO and other IOMC organizations, is currently drafting guidance to assist developing countries and countries with economies in transition to strengthen national capacities to develop and implement an effective national strategy for hazard communication. Subject to available resources, the Programme, in collaboration with our IOMC partners, will support a small number of pilot countries to develop national hazard communication strategies through the involvement of affected and interested parties.



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