

# UN/SCEGHS/5/INF.9

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**Sub-Committee of Experts on the Globally  
Harmonized System of Classification  
and Labelling of Chemicals**  
(Fifth session, 7-9 July 2003,  
agenda item 3)

## **Cooperation with other international organizations**

### **GHS promotion/ ISO Bulletin**

### **Transmitted by the secretariat**

For ease of information, the pages that follow contain a copy of a text by Mr. F. Abram Technical Programme manager, ISO Central Secretariat, published in the ISO Bulletin of May 2003, Volume 34, N°5, which promotes the GHS system.

IFCS National Focal Point were requested to disseminate this Information Circular to appropriate individuals in their respective countries: national departments sharing responsibility for chemical safety (health, environment, agriculture, labour, transport, industry, etc) as well as non-governmental organizations active in the area.

## Dangerous chemicals: a new globally harmonized system of classification and labelling

By François Abram, Technical Programme Manager, ISO Central Secretariat

*At its first meeting held in Geneva in December 2002, the Committee of Experts on the Transport of Dangerous Goods and the Globally Harmonized System of Classification and Labelling of Chemicals of the United Nations adopted a new regulatory document on the classification and labelling of chemicals, the GHS. The GHS covers all dangerous chemicals. The way in which the communication/danger signal elements are applied within the GHS (for instance labels, safety data sheets – SDS) may vary according to the product category or the stage in the life cycle of the product. The GHS's target audience includes companies in the chemical industry and transport field, workers, consumers and emergency relief departments.*

ing by solids and liquids accounted for 1 in 25 accidents to children under the age of 4 and represented nearly 28 788 poisonings nationwide in 1999 alone.

The new ISO standard specifies the requirements and test methods for containers and closures which are difficult for young children to open or gain access to the contents. The methods are expected to improve the effectiveness of the package in restricting access by children in order to prevent injury or death due to accidental ingestion.

"Since the introduction of child-resistant packaging, the incidence of accidental ingestion of potentially hazardous products by children under 5 years old has fallen," said Mick Maghar, secretary of the subcommittee which developed the new standard. "The degree to which this is due to the use of child-resistant packaging as opposed to other factors, such as greater public awareness of the hazards, is not easily assessed, but there is little doubt that this packaging has made a positive contribution to the reduction."

In view of the increasing use of child-resistant packaging and the growing awareness of the elderly and physically handicapped experiencing difficulty opening the packaging, the new edition of the standard contains a test method for adults between the ages of 50 and 70 which will offer a measure of the effectiveness of the package in providing accessibility to the contents by adults.

"It is relatively simple to make a package "child resistant" by making it extremely difficult to open. However, this is of no use if the end user (an adult) is unable to open it. The adult test ensures that, while being difficult for a child to open, it is still accessible to the majority of adults, especially the elderly," further noted Mick Maghar.

The new standard is likely to be used by manufacturers involved in the design and production of child-resistant packaging before they are put on the market for consumer use. □



Poisonous gas  
(ISO 7225:1994)

The English version of the GHS recommendations was published in March 2003; the French version will be available in June 2003. It is therefore important to note the document, take a close look at its purpose and, at the same time, consider its current repercussions and its consequences for the future in relation to the work of ISO. The purpose of the GHS is well explained in its introduction, as one can see from the particularly enlightening excerpts below. As far as its relationship with ISO's work is concerned, it is a matter, at this stage, of taking stock and raising a number of questions in relation to a possible future collaboration with the GHS experts subcommittee, the secretariat of which is held by the Transport Division of the United Nations Economic Commission for Europe (UN/ECE) (web site: [www.unece.org/trans/danger/danger.htm](http://www.unece.org/trans/danger/danger.htm)).



## Purpose of the GHS (excerpts)

### 1.1.1 Purpose

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

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

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

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

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

### Relationship with ISO's work

Representatives of a number of chemical industries also involved in ISO's work took part in the work on the GHS. The gas industry in particular, a stakeholder in the work of ISO's technical committees on gas cylinders (ISO/TC 58) and cryogenic vessels (ISO/TC 220) followed the work on the GHS very closely to ensure that a number of dangerousness criteria were taken into account, as in the case of the work on the "Model Regulation for the Transport of Dangerous Goods" (Orange book). The standards on the

determination of fire potential and oxidizing ability (ISO 10156) and on the compatibility of cylinder and valve materials with gas contents (ISO 11114) are good examples.

The technical committee in charge of chemistry (ISO/TC 47) also closely followed the work. Its standard on safety data sheets (SDS) for chemicals (ISO 11014:1994) was directly concerned. It was agreed to revise this very important standard to bring it into line with the GHS (see ISO/DIS 11014-1, under preparation). This standard, ISO 11014, which served as a basis for the United Nations

experts committee, plays an increasingly crucial role in regard to both safety and environmental protection. When handling or transporting chemicals, SDS provide useful information on the nature and properties of the product, and on safety and other measures that need to be taken. Should an accident occur at the producer's or the customer's plant, or during transport, whether by air, by sea, by rail or by road, it is also possible to refer to the SDS including to check the truth and sincerity of the statements made.

Other ISO work was taken into consideration in the development of the GHS and adapted to specific needs in regard to the safety of chemicals, for instance aspects relating to safety symbols and signs. In the course of the work, the UN Experts Committee drew as far as possible upon existing ISO standards, for example the standard on colours and safety signs (ISO 3864) and other standards of the technical committee dealing with graphical symbols and pictograms (ISO/TC 145). However, these were sometimes insufficient or not complete enough to meet the needs of the GHS without further adjustments.

The standards of other ISO technical committees are to be taken into account by way of reference, such as those dealing with the measurement of flashpoint developed by the technical committee on petroleum products (ISO/TC 28), and those dealing with the terminology of fire testing (ISO 13943) resulting from the work of the technical committee on fire safety (ISO/TC 92). This list is not exhaustive and other ISO technical committees may be concerned.

### Peering ahead

For the future, one should note the very important and useful role that ISO standards can play, via the United Nations recommendations and regulations, in some very topical areas. These may include cases of shipwreck, explosions at factories, river pollution or poisoning by domestic products.

The United Nations committee is considering a possible biennial updating



## International benchmark for personnel certification schemes

A new International Standard aims to harmonize the various procedures used around the world for certifying the competence of personnel in different professions (see also *ISO Bulletin*, October 2002).

It will provide a global benchmark for certification schemes to ensure that they operate in a consistent, comparable and reliable manner worldwide, thus establishing an environment for the mutual recognition of schemes and facilitating the global mobility of personnel.

Today, thousands of certification programmes exist for personnel in practically every industry, in particular in the service sectors, from healthcare personnel and financial planners to safety professionals and non destructive testing operators, as a means of demonstrating their professional ability. One of the functions of the body carrying out certification of persons is to undertake an independent assessment of education/training, experience, demonstrated knowledge and skills applicable to the area for which the certification is awarded. This process is known as a "certification scheme".

The new standard, ISO/IEC 17024, *Conformity assessment – General requirements for bodies operating certification of persons*, provides a uniform set of guidelines for organizations managing the qualifications and certification of persons, including procedures for the development and maintenance of a certification scheme. It is designed to help bodies operating certification of persons conduct well-planned and structured evaluations using objective criteria for competence and grading in order to ensure impartiality of operations and reduce any conflict of interest.

"To be able to choose a person with the competence needed, or for a person to be able to demonstrate specific competencies, the tool of certification under a defined certification scheme may be particularly

useful," said Dr. Thomas Facklam, Chairman of the International Accreditation Forum (IAF) and convenor of the working group that developed the new standard. "Therefore, ISO/CASCO together with IEC (International Electrotechnical Commission) decided to establish a new competence standard defining the requirements for bodies operating the certification of persons."

ISO/IEC 17024 addresses the structure and governance of the certifying body, the characteristics of the certification programme, the information required to be available to applicants, and the recertification initiatives of the certifying body.

"ISO/IEC 17024 should be the basis for the recognition of the certification bodies and their certification schemes, in order to facilitate their acceptance on the national and international levels. Only the harmonization of the system for developing and maintaining certification schemes for persons can establish the environment for mutual recognition and the global exchange of personnel," further noted Dr. Facklam.

The new standard is the work of ISO's Committee on conformity assessment (CASCO) working group 17, *Certification of persons*, in partnership with the IEC (International Electrotechnical Commission) □



of the GHS provisions. International organizations having taken part in the work, such as the International Labour Organization (ILO) and the Organization for Economic Co-Operation and Development (OECD), will be called upon to take part in the future GHS maintenance work.

A considerable technical knowledge base has been brought together in shaping these GHS recommendations. It results from the pooling of experience collected in many countries over a long period of time.

One of the aims was also to ensure that the greatest possible number of countries benefited from the work, in particular the developing countries. A number of organizations were associated, such as the United Nations Institute for Training and Research (UNITAR) for the implementation of the system. Several non-governmental organizations with members in many countries, including in the developing countries, such as ISO for example, were welcome in that they were in a good position to help publicize the GHS recommendations in the industrial and transport spheres throughout the world. □

Oxidizing agent from ISO 7225:1994