

EXECUTIVE SUMMARY

BACKGROUND

The Johannesburg Plan of Implementation includes the commitment to implement the Globally Harmonised System of Chemical Classification and Labelling (GHS) in all countries by 2008. Responsibility for chemicals management in South Africa is spread over a number of Ministries. Implementation of the GHS is thus likely to present significant challenges. In order to evaluate these challenges and develop mechanisms to meet them, the National Economic Development and Labour Advisory Council (NEDLAC), which undertakes research into issues of socio-economic importance through its Fund for Research into Development, Growth and Equity (FRIDGE) initiated a study for implementing the GHS in South Africa and the development of a national implementation strategy in October 2002. The study is co-funded by the United Nations Institute for Training and Research (UNITAR).

The study comprises three phases:

Phase 1, Situation Analysis (October 2002 – April 2003): This phase comprised the compilation of a Situation Analysis which identifies and assesses infrastructure and available national expertise relevant to chemical classification and hazard communication. A study of the comprehensibility of hazard communication elements was also undertaken as part of this phase.

Phase 2, Gap Analysis and Socio-Economic Evaluation (May – August 2003): Based on the information collected for the Situation Analysis, a gap analysis was undertaken to identify areas where intervention is required to implement the GHS. The socio-economic implications of the identified interventions were evaluated.

Phase 3, Implementation Strategy (August – November 2003): The outcome of the gap analysis and socio-economic evaluation formed the basis of the development of an implementation strategy.

PHASE 1: SITUATION ANALYSIS

The consultant team for the project, under the direction of a FRIDGE Counterpart Group (comprising representatives of Government, Business and Labour), completed the Situation Analysis study during March 2003. A multi-sector stakeholder workshop was held on 15 April 2003 at which the outcomes of the Situation Analysis study were presented. Representatives from Government, as well as Business and Labour in the industrial production, agricultural, transport, and consumer sectors, debated the findings and made valuable input relative to their specific sectors. The draft Situation Analysis report was revised incorporating the contributions made at the workshop and has been finalised and forms Part 1 of this Report. The main findings are set out below.

The GHS requirements are covered by six national laws and many municipal by-laws. The different ministries responsible for the laws have different objectives resulting in different approaches in the various laws. No formal mechanism for co-ordination of implementation exists. The whole chemical lifecycle is not covered and the parts that are covered are not covered to the same extent. Overlapping jurisdiction in some areas causes confusion in enforcement. This is particularly problematic in dealing with different modes of transport, as not all the requirements of the GHS are incorporated in legislation.

The use of Material Safety Data Sheets (MSDSs) is the most comprehensive in the industrial production sector. However, the further away from the original manufacturer the chemical moves along the value chain, the weaker hazard communication becomes. Lack of accredited testing capacity, particularly for health and environmental effects, results in greater reliance on foreign test data, which is not always accessible.

Workers complain about the lack of uniformity in MSDS contents. The agriculture sector has the disadvantage of a low literacy level, which makes hazard communication a special challenge. Hazard communication in this sector focuses on labels and package inserts rather than MSDSs.

The transport and emergency response sectors have attempted to align requirements with international guidelines. This has not been achieved in all cases and the use of codes of practice as the technical regulatory base in road transportation has resulted in a number of problems with enforcement. Lack of cross border harmonization results in significant costs, as drivers have to carry different documentation for each country.

The consumer sector presents very specific problems, which include almost a complete lack of legislation. Consumer awareness is being raised by a number of consumer NGOs, some of which have a specific focus on hazardous household chemicals. Labels are the only source of information for consumers and often these do not contain sufficient information. The informal sector presents specific problems as chemicals are imported with labels in foreign languages, and chemicals are frequently repacked into smaller containers for sale, often without labels.

Chemical hazard communication, through the provision of labels and safety data sheets, is a key strategy for the prevention of illness and disability due to unsafe use of, or from exposure to potentially hazardous chemicals. Hence, as part of the Situation Analysis a **Chemical Hazard Communication Comprehensibility Testing Study** was undertaken. The University of Cape Town (Occupational and Environmental Health Research Unit, School of Public Health and Family Medicine) undertook a field study of comprehensibility of chemical hazard communication tools. Comprehensibility testing was undertaken on about 400 persons randomly selected across the GHS sectors and sub-sectors, using tools specifically developed for this purpose (reported in Part 2 of this Report). The University of Cape Town's draft report on the study was discussed at the multi-sector stakeholder workshop held on 5 August 2003 and was revised and finalised as Part 3 of this report. Comprehension varied across sectors and sub-sectors, by education, home language and by history of previous training. Some elements of hazard communication are relatively well understood, particularly symbols such as the skull and crossbones and the flammable symbol, and pictograms denoting use of protective clothing. However, the majority of other hazard symbols, warning and activity pictograms, and hazard messages, are of moderate to poor comprehensibility. Training improved the subjects' comprehension.

PHASE 2: GAP ANALYSIS AND SOCIO-ECONOMIC EVALUATION

The consultant team undertook a Gap Analysis and Socio-Economic Evaluation and compiled a Draft Report which was extensively workshopped at a multi-sector stakeholder workshop held on 5 August 2003. Representatives from Government, as well as Business and Labour in the industrial production, agricultural, transport, and consumer sectors, debated the findings and made valuable input relative to their specific sectors. The Draft Report has been revised incorporating the contributions made at the workshop and has been finalised and forms Part 4 of this Report. The main findings are set out below.

The Gap Analysis indicates that although current practice for chemical hazard communication in South Africa meets some of the requirements of the GHS, there are many detailed aspects that are not being met. Furthermore, within South Africa requirements for chemical classification and hazard communication are not harmonised.

Hazard Classification: South African laws do not deal uniformly or comprehensively with all the sectors contemplated in the GHS document. The approach to the "classification" of substances for the purposes of the legislation differs. The terminology used is not consistent, e.g. legislation refers variously to hazardous chemical substances, hazardous substances and dangerous goods. For many classes in GHS the criteria are semi-quantitative or qualitative and expert judgment is required to interpret the data for classification purposes. Many aspects of hazard classification and communication are dealt with by voluntary Codes of Practice developed by the national standards authority.

The Code that deals with classification, SABS 0228 is the only Code of Practice referenced in legislation. This Code currently does not fully comply with the requirements of the GHS. Gaps include the absence of bridging principles to facilitate classification where no test data is available. The allocation of classification categories do not coincide with the GHS allocation. Classification of chlorates and ammonium nitrates, as explosives does not comply with GHS. Flash points for flammable liquids differ. Some of the health hazards are not aligned.

Test Methods: The physical test methods currently applied for hazardous substances and mixtures in South Africa (referenced in SABS 0228, SABS 0265 and SABS 0304) are not fully aligned with those prescribed by the GHS. The larger South African companies are either able to test for physical properties of new formulations or mixtures, or access local expertise in this regard. Capacity to test substances for health and environmental risk does not exist in South Africa. Companies therefore rely on international test data.

Hazard Communication – Labelling: Labelling requirements are not dealt with uniformly or comprehensively in all sectors. The transport and agriculture sectors have extensive provisions for the regulation of labelling. However, there is very limited regulation of labelling in the industrial sector (including the workplace) and consumer sector. The GHS specifies that the label must be updated when new information becomes available. In addition, the information on which the label is based must be reviewed periodically. Currently, no formal requirements exist in South Africa for the updating of label information when new information is made available or for the regular review of the information on the product. Signal words and hazard statements are not all aligned with GHS phrases. The discretionary aspects of the GHS are being subjected to further analysis as part of the implementation strategy.

Hazard Communication – Safety Data Sheets: The GHS requirements for Safety Data Sheets (SDSs) specify information arranged under 16 headings and in a specific order. The South African requirements for MSDSs also specify 16 headings, but the order of headings differs. Furthermore, terminology used differs, i.e. the GHS uses the terms substance or mixture whereas the MSDS uses product and preparations. The information provided in MSDSs is not always accessible to workers and customers. There are currently no requirements for the review of MSDSs. Where reviews are undertaken, particularly by larger companies, they are undertaken as part of the ISO reviews of management systems; or ongoing risk assessments and internal reviews of hazard data trends. The MSDS requirements in certain instances are less prescriptive than the GHS requirements, e.g. 'Hazard(s) Identification' does not specifically require GHS label elements or other hazards that do not result in classification.

Hazard Communication – Transport: In South Africa, hazard communication by means of a Transport Emergency Card is considered an integral part of the hazard communication system. Although the GHS does not include specific requirements for this form of hazard communication, the study has included a review of current practice. The other methods of communication for the transport sector like placards have been compared against the GHS requirements.

Training and Awareness Raising: The current level of awareness is not sufficient to ensure successful implementation of the GHS. This is particularly important at the workplace and consumer level as workers and consumers can play a useful watchdog role in ensuring compliance with requirements. Current levels of training are not sufficient to maintain the existing systems of hazard classification and communication. Skill development is undertaken through 26 sectoral educational and training authorities. The Chemical Industries Education and Training Authority (CHIETA) and the Transport Education and Training Authority (TETA) are the two that would be the most affected by implementation of the GHS. As government officials will also require training, the Public Service Educational Training Authority (PSETA) will also need to be involved in the strategy development.

Socio-Economic Implications: The major socio-economic impact of implementation versus non-implementation of the GHS in South Africa is expected to be on the trade in chemicals. Non-implementation of the GHS could result in non-tariff barriers to a country's exports for not conforming to the harmonised system of hazard communication. Non-conformance to the GHS would also imply a disregard for human safety and for the environment and, on their own, have the potential to become grounds for non-tariff measures. Hence, implementation of the GHS should assist South African chemical exporters to avoid these measures that could impact negatively on trade.

A variety of resources are required for the implementation of the GHS. Human expertise is required in respect of classification, classification criteria, test methods, labelling, legislation and training with regard to the GHS. Success with implementation will require extensive training, particularly in the work place, in transport and the delivery of emergency services while consumer awareness raising and training need to be more prominent and effective than in the past. Substantial resources are required for training and awareness raising.

Because of a lack of suitable information, the cost of implementation could not be quantified. Many of those directly or indirectly involved with hazardous chemicals were unable to estimate the cost of their present activities in hazard communication. This suggested that hazard communication does not carry a significant cost and that adoption of the GHS would imply incremental rather than significant costs. However, a shortfall in the levels of existing delivery is apparent even before the higher performance requirements of the GHS were considered. Furthermore, once-off costs need to be incurred in the course of the implementation phase, while recurrent costs may be of lesser concern once the system is being run capably.

The GHS offers benefits in standardised elements of hazard communication obviating the need for their development by individual countries. The objective of the World Summit on Sustainable Development (WSSD) GHS Partnership by UNITAR, the International Labour Organisation (ILO) and the Organisation for Economic and Co-operation Development (OECD), launched at the WSSD in Johannesburg during 2002, was to mobilize support and catalyse partnerships in assisting with implementation of the GHS. It is expected that the Partnership will be the vehicle for donor assistance for implementation of the GHS in the areas of capacity building, awareness raising, training and strategy development for implementation.

Since the implementation costs of the GHS will only be incremental to current expenditure these may to a large extent be absorbed into departmental budgets. This is especially applicable for recurrent costs while once-off costs could possibly be defrayed from donor funds. From a company perspective, medium and small businesses as well as new export entrants will probably find it harder and more costly to comply with the GHS than the larger companies.

PHASE 3: NATIONAL IMPLEMENTATION STRATEGY

Based on the Situation Analysis (Part 1 of this Report) and the Gap Analysis and Socio-Economic Evaluation (Part 4 of this Report), the consultants compiled a draft National GHS Implementation Strategy for South Africa. This document was discussed with the FRIDGE Counterpart Group (comprising representatives of Government, Business and Labour) as well as representatives of the Government Departments directly affected by the GHS, during September and October 2003. The draft Strategy was revised and now forms Part 5 of this Report. The purpose, scope and aims of the National GHS Implementation Strategy and the proposed Implementation Programme are set out below.

Purpose: The Strategy provides a sound basis for the implementation of the GHS in South Africa and serves as a framework within which all stakeholders can play their appropriate roles in its implementation.

Scope: The Strategy addresses the gaps identified between the present system of classification of, and communication about, hazardous chemicals in South Africa (the outcomes of Phase 2 of the GHS Study) and the requirements of the GHS (as set out in the latest GHS document, viz. UN Document ST/SG/AC.10/C.4/2002/16 of December 2002, which was formally adopted during July 2003).

The **overall aims** of the Strategy are to:

- devise an approach to provide for the full implementation of the GHS in South Africa by 2008;
- ensure an integrated life-cycle approach which will be harmonised across the chemicals value chain;

- ensure continued alignment with international trends in the further development of the GHS; and
- ensure that compliance with the GHS requirements is prescribed in law.

Implementation Activities: Implementation issues and options were identified and assessed, and based on the outcome of this assessment a number of activities that would be needed for implementation were identified. The activities were structured within a framework of the typical elements of a chemicals management system, i.e. legislation, institutional matters, training, awareness raising and technical infrastructure. Goals, associated objectives and activities to achieve the overall aims of the Strategy are detailed below.

The **Legislative Goal** of the Strategy is to ensure that the South African regulatory system provides a framework for hazard classification and communication management which reflects the requirements of the GHS system throughout the life-cycle of chemicals and which encompasses all the sectors contemplated by the GHS.

The **objectives** set to achieve the legislative goal are to:

- Amend existing legislation, or where no relevant legislation exists, promulgate new legislation to cover all aspects of the GHS.
- Develop a mandatory GHS Technical Standard (to be referred to as the SABS GHS Standard) which will be referenced in all legislation referred to in the first objective.

The **Institutional Goal** is to ensure that all the necessary institutional arrangements are in place to facilitate and enable the effective implementation of the GHS in South Africa by 2008. The **objectives** set to achieve this institutional goal are to:

- Harmonise the development and implementation of the SABS GHS Standard through the SABS GHS Technical Committee comprising the relevant Government Departments, Labour, Business and Consumer Organisations;
- Ensure – Establishment of compliance and enforcement capacity within the regulatory authorities through adequate budget allocations; Compliance monitoring; Enforcement of legislation; and Development of essential support mechanisms;
- Utilise existing private sector initiatives to promote industry compliance with GHS legislation;
- Strengthen interaction with international institutions for the further development and implementation of the GHS;
- Harmonise the approach to the implementation of the GHS with SADC and African Union trading partners;
- Ensure on-going training and awareness raising within relevant government and non-governmental organisations; and
- Ensure access to the required technical infrastructure to implement the GHS by relevant institutions.

The **Training Goal** is to develop and implement appropriate training programmes for each target sector commensurate with the nature of the work or exposure to hazardous chemicals. The **objectives** set to achieve this training goal are to:

- Ensure that maximum use is made of existing training infrastructure;
- Develop and implement relevant training courses to cover all elements of GHS for all relevant role players along the value chain;
- Ensure that training on the GHS is harmonised across all sectors; and
- Ensure that the special training challenges of SMMEs and rural organisations are addressed.

The **Awareness Raising Goal** is to develop and implement a comprehensive awareness raising programme that addresses the needs of the different target audiences along the value chain and ensures that the information conveyed on MSDSs and/or labels is accessible to the user. The **objectives** set to achieve this awareness raising goal are to:

- Update existing awareness programmes to include relevant areas of the GHS;
- Implement awareness raising programme along the value chain;
- Strengthen the capacity of organisations currently implementing programmes in the consumer sector to undertake awareness raising; and
- Increase the number of organisations that can implement awareness raising.

The **Technical Infrastructure Goal** is to strengthen existing technical infrastructure in South Africa to support the effective and efficient implementation of the GHS. The **objectives** set to achieve this technical infrastructure goal are to:

- Promote the accreditation of testing facilities for all hazard criteria through the SANAS accreditation system;
- Conclude international multilateral agreements to ensure the international acceptance of results from accredited facilities;
- Establish appropriate infrastructure to effectively respond to enquiries in respect of poisoning incidents involving chemicals and the appropriate emergency response; and to extend the scope to respond to all incidents involving chemicals and enquiries regarding chronic impacts of chemicals;
- Establish appropriate information management systems both for GHS implementation and compliance monitoring; and
- Establish appropriate mechanisms to assist stakeholders to access relevant hazard communication information.

Resource Requirements: A broad estimate of resource requirements has been made. Resources can be sourced in-house from existing institutions as well as from external sources. The implementation of the GHS and the resultant improvement in overall chemical management, imply increased post implementation resource use. Possible sources from which resources could possibly be obtained or augmented have been identified. The following are a broad indication of resource requirements:

- **Human resources:** About twenty five person-years from present staffing in Government Departments, Business, Labour and Non-Governmental Organisations will be required to implement the GHS over the period 2004 to 2008. The staff would prepare legislation, and strengthen the institutional capacity, technical infrastructure and training capacity to deal with the GHS.
- **Financial resources:** About R100 million will be required for the implementation of the GHS over the next five years (2004 to 2008). However, most of this funding (about R80 million) is already allocated in existing financial planning and budgets, and the remainder could be partially secured through donor funding :
 - About R25 million would be required to assist companies to comply with the GHS in terms of existing programmes of the dti Competitiveness Fund. The most pressing need is expected to be compliance with the testing requirements of the GHS. Cost savings may arise from accreditation of testing laboratories through SANAS that offer the opportunity to avoid the use of expensive facilities in developed countries.
 - An additional R60 million would be required for the implementation of the GHS, most of which (R38 million) would be required for training, which could be defrayed from existing SETAs resources. The remaining expenditure of R22 million is expected to be distributed over four years and primarily be used to strengthen the institutional capacity and technical infrastructure among Government, Business and Labour to implement the GHS.

- Once the GHS is established there would be a higher recurring cost (about R5.5 million per annum) to sustain the GHS in terms of the maintenance of institutional and technical capacity, especially compliance and law enforcement. This would also require addition to permanent staff. Awareness raising programmes should be more prominent than before and could require R5 million during the implementation phase and a further R1 million per annum thereafter.
- Compliance with the GHS requirements will enable leverage of other donor funds for discrete and once-off elements for the implementation of the GHS. For example, donors could be approached for assisting with the legal, capacity building and awareness raising activities
- The WSSD Partnership will become the vehicle for donor assistance for implementation of the GHS and is expected to assist in respect of capacity building, awareness raising and training.

THE WAY FORWARD

The key steps in the Way Forward are:

- The FRIDGE Sub-Committee approved Draft Final GHS report will be forwarded to NEDLAC for final approval and debate on the policy implications. All relevant Government Departments will be encouraged to participate in the NEDLAC debate.
- The results of the NEDLAC process will be forwarded to Government for consideration.
- Once the Draft Final GHS Report has been adopted by NEDLAC the full text will be made available on the NEDLAC website.