

2 BASIS FOR THE STRATEGY

The National Implementation Strategy is based on the findings of the Situation Analysis (Phase 1) and the Gap Analysis and Socio-Economic Evaluation (Phase 2). This section briefly summarises the relevant outcomes as a basis for the development of the Strategy. Outcomes are reported on the following key elements: legal elements, institutional matters, training, awareness raising and technical infrastructure.

2.1 Legal

The approach to the development of the legal elements of the Strategy is informed by the following broad findings of Phases 1 and 2 of the GHS study:

- In South Africa, the management of chemicals, in particular hazard classification and communication, falls within the functional competence of several Government Departments and is accordingly regulated by numerous laws;
- There are regulatory gaps and overlaps within the existing system;
- The regulatory framework does not currently accommodate all the requirements of the GHS in all the sectors or elements that the GHS covers; and
- Many of the technical aspects of hazard classification and communication are implemented by way of SABS Codes of Practice or adoption of international practices, some of which are not incorporated in legislation and/or which do not comply with GHS requirements in all respects.

In addition to the findings of Phases 1 and 2, the Strategy has been informed by the principle that compliance with the GHS requirements will be made legally binding. This will require some legislative amendments and the legislative intervention would need to address the matters identified in the Gap Analysis, a summary of which is set out in Table 3.1 (see Section 3).

2.2 Institutional

2.2.1 National Institutions

The Situation Analysis (Phase 1 of the GHS Study) identified the various national institutions relevant to chemical hazard classification and communication. The key institutions are in the following sectors: Government (including statutory organisations), Labour, Industry, NGOs, CBOs and Consumer Organisations.

Several different **Government Departments** administer a range of legislation and policies, relevant to chemical hazard classification and communication, these include: DOL, DOH, DME, NDOT, NDA, DEAT, **the dti**, and DPLG. A summary of related institutions, relevant committees and relevant legislation is set out in Table 2.1 below. The table indicates that there are many areas of overlap. In-line with government's approach to the non-proliferation of new institutions, as well as addressing capacity limitations and constraints, these institutional issues need to be addressed in the proposed National Implementation Strategy.

Table 2.1: Key Authorities and Related Institutions, Relevant Committees and Relevant Legislation

	Department of Labour	Dept. of Health	Dept of Minerals and Energy	Department of Transport	National Department of Agriculture	Dept of Environ. Affairs & Tourism	Dept of Provincial & Local Government
Related Institutions	26 SETAs	NCOH		SAMSA, RSR	SEARCH ARC		NDMC
Relevant committees	Advisory Council for Occupational Health and Safety	National Health Laboratory Service	Mining Occupational Health Advisory Committee	SEAPACC	Inter-departmental advisory Committee for the Protection of Man against Poisons	CEC	NCDMC PDMC
GHS Elements Covered	Industrial production; Classification, MSDS, Labelling; Training; Emergency response	Classification; Labelling; Training	Labelling, Use of MSDS Training; Emergency response	Classification; Labelling; Tremcards; Training; Emergency response	Agricultural chemicals; Classification, labelling	Environment; Emergency Response; (Indirectly, Minimum Requirements for Waste Management)	Emergency response; Disaster Management; Training
Acts	Occupational Health and Safety Act Skills Development Act	Hazardous Substances Act Health Act	Mines Health and Safety Act	National Road Traffic Act National Railway Safety Regulator Act Merchant Shipping Act	Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act	National Environmental Management Act Environment Conservation Act Section 51 of Merchant Shipping Act	Disaster Management Act Fire Brigade Services Act

The Situation Analysis also identified a number of **statutory bodies** that have key roles and functions in the area of chemical hazard classification and communication. These institutions will play an important role in the implementation of the GHS in South Africa, i.e.:

- **South Africa Bureau of Standards¹ (SABS)** currently represents South Africa's interests on the United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonised System of Classification and Labelling of Chemicals. The SABS has been involved in the development of Codes of Practice and Standards for dangerous goods since the late 1980s, which will need to be amended for implementation of the GHS.

¹ Standards South Africa, a division of the South African Bureau of Standards (SABS), was established in 2002 and is responsible for all Standards and Codes of Practices previously developed, compiled and published by the SABS. In this GHS series of reports (Part 1 to 5) the old reference numbers, i.e. the SABS rather than the new SANS reference numbers are used, since these are referenced in legislation and are still widely in use.

- **Sector Education and Training Authorities**, e.g. the Chemical Industries Education and Training Authority (CHIETA); the Local Government, Water and Related Services Education and Training Authority (LGWSETA); the Transport Education and Training Authority (TETA); and the Wholesale and Retail Sector Education and Training Authority (W&RSETA), which are responsible for training in all the target sectors, except consumers.

The role the *private sector and NGOs* could play in implementing or supporting the implementation of the GHS could include initiatives by:

- the **Chemical and Allied Industries' Association** (CAIA) which represents the interests of mainly upstream chemical companies and manages the international Responsible Care initiative in South Africa;
- **CropLife SA** which represents companies regulated by the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act No 36 of 1947). It supports its members and agricultural associations by servicing the agricultural communities (including emerging farmers);
- **Agri South Africa** which represents both large and small-scale commercial farmers; and
- **National African Farmer's Union** which represents black farmers.

Consumer Groups, e.g. Consumers Against Unsafe Shopping Environments (CAUSE), GroundWork, the National Consumer Forum, and Isabel Jones Consumer Hotline (IJCH), could make an input in terms of the Strategy in the area of addressing concerns about the hazards of household chemicals.

A number of **Non-Governmental Organisations** (NGOs) supporting the occupational health and safety sector (e.g. Industrial Health Research Group (Cape Town), Industrial Health Unit (Durban), and the Industrial Health and Safety Education Project (East London)) could play a role in supporting the implementation of the National Implementation Strategy in the area of health and safety.

The various **Labour Federation and their Affiliates** i.e. the Congress of South African Trade Unions (COSATU), the Federation of Unions of South Africa (FEDUSA) and the National Council of Trade Unions (NACTU), could assist in the implementation of the GHS Strategy by providing occupational health and safety training in the area of hazardous chemicals.

2.2.2 Regional and International Institutions

A number of regional and international institutions are directly or indirectly involved in hazardous chemical classification and communication, and potential roles in the implementation of the Strategy are indicated below.

- **Southern African Development Community** (SADC) currently supports initiatives promoting the GHS in the region.
- The **New Partnership for Africa's Development** (NEPAD) has developed an environmental initiative, which includes an action plan and strategies to address the region's environmental challenges while at the same time combating poverty and promoting socio-economic development. Implementation of the GHS is recognised as a priority within the chemicals management section of the initiative.

- The **United Nations** was responsible for the development of the GHS. Major UN initiatives in the GHS and related fields which could potentially impact on, or assist with, South Africa's implementation of the GHS include:
 - World Summit on Sustainable Development (WSSD): UNITAR and ILO initiated the Global GHS Partnership, in collaboration with the OECD, a WSSD-endorsed framework which brings together countries and organizations committed to supporting specific GHS capacity building activities in developing and transition countries. The Partnership pursues concrete objectives and targets for GHS capacity building activities at the global, regional and national levels and mobilises resources to reach these targets. South Africa is one of the 25 members that became a Partner.
 - UN Sub-Committee of Experts on the GHS (SCEGHS): This committee is a policy-making body that maintains existing and develops new technical elements of the GHS and makes proposals for work and policy decisions to its parent committee, the UN Committee of Experts on the Transport of Dangerous Goods and the GHS. South Africa is represented on the SCEGHS.
 - UNITAR/ILO GHS Training and Capacity Building Programme: The UNITAR/ILO GHS Capacity Building Programme was established in 2001 and operates within UNITAR's Training and Capacity Building Programmes in Chemicals and Waste Management. It supports national GHS action plans processes, regional workshops, and develops and pilots GHS training material. South Africa is represented on this Programme.
 - United Nations Environmental Programme on Chemical Safety Issues: UNEP has an active and growing programme to help countries build their capacities to manage chemicals safely. UNEP supports work on some matters covered in the Plan of Implementation, including the GHS.

2.3 Training

Legislation provides for the mandatory training of workers in respect of hazardous substances and communication. The Sector Education and Training Authorities (SETAs) have been established for the implementation of formal training programmes. The primary end-users of the GHS are serviced by a number of SETAs, including: CHIETA, TETA, PAETA, SETASA, LGWSETA and the Services SETA. Currently, only TETA has formal learnerships that cover handling of dangerous goods and occupational health and safety with respect to the transport sector. In addition, the number of training service providers currently accredited through the SETA system is limited.

In general, the level of training provided to the workers is often dependent upon the size of the company and the resources available and whether the organisation is based in an urban or rural area. The extent of in-house training is variable and is influenced by resource availability. Larger companies generally provide training to all personnel within the organisation while downstream companies concentrate their training on the hazards that are specific to workers' activities. Organisations with smaller staff complements and those located in rural areas are often not able to provide off-site training to their workers due to constrained capacity and resource conditions. Similarly, resource constraints limit the level of refresher training provided to workers in smaller and rural organisations.

NGOs have actively been involved in providing basic training to shop stewards, although resource constraints have limited the extent of assistance.

Training for consumers is not provided for in legislation. Currently, various consumer organisations are involved in raising awareness of the hazards of chemicals, but no formalised consumer training programmes are implemented. Training is also required by retailers to ensure that products that are classified as hazardous chemicals are correctly managed and that the hazard information is conveyed to the consumer.

2.4 Awareness Raising

A number of awareness raising initiatives are ongoing within the relevant sectors although the level of implementation is limited by resource constraints. This is particularly significant within the consumer sector which is a diverse sector and where initiatives are undertaken by consumer organisations that are experiencing severe financial and resource constraints. Additional awareness raising is specifically required within the informal sector and in rural areas, where often problems of illiteracy and low levels of education are experienced and information has to be conveyed verbally.

The level of awareness by communities of the chemical hazards associated with the manufacture and transportation of chemicals within their areas is generally low. There is a lack of awareness of the information conveyed by placards or action to be taken in the event of an emergency situation.

2.5 Technical Infrastructure

The technical infrastructure required to support the effective implementation of the GHS includes testing facilities, poison centres and information management systems for compliance monitoring and hazard management.

2.5.1 Testing Facilities

Testing facilities are important for determining the hazards of chemicals for classification, and to compile labels and MSDSs. Facilities are located at industries, independent laboratories, research institutes, the SABS, universities and other higher education training centres. Testing laboratories can be accredited through SANAS for specific test methods or techniques. SANAS maintains and publishes a database of all accredited organisations, the test method(s) for which they are accredited and their location.

Generally the larger companies have the appropriate capacity to undertake in-house physico-chemical testing of chemical substances and mixtures. Where facilities are not available within the company, local expertise is accessed for testing. However, the capacity in South Africa to undertake environmental and health testing for new substances or mixtures is limited. Although some research laboratories have the necessary infrastructure and capacity, currently there are no SANAS accredited toxicity laboratories in South Africa. One laboratory is currently working towards accreditation.

When a South African manufacturer is part of a multi-national organisation, the international company that has undertaken the original research and development for the new product usually provides the environmental and health data. The cost of such testing has been estimated to be up to €1 million per component in each substance and a further €300,000 per component for ecotoxicity testing, which can only be funded by the larger companies. When toxicity data is not generated for a product, published toxicity data of similar products or the raw materials (based on the percentage of each individual constituent in the product) is used for classification purposes and for compiling the label and MSDS. This methodology assumes the worst-case scenario and does not take into account any synergistic effects. A draft white paper compiled by the European

Commission entitled "Strategy for a Future Chemicals Policy" proposes that any chemicals that are exported to the EU have to be tested. Should this policy be implemented, South African manufacturers that produce new products will have to undertake hazard testing.

The test methods currently in practice for determining the physico-chemical hazards of chemicals are not fully aligned with the GHS and a number of the criteria do not comply with those specified by the GHS. The current test methods for environmental and health toxicity testing incorporated in the SABS Codes of Practice are also not fully aligned with those recommended in the GHS. Certain test methods are currently not covered by the SABS Codes of Practice, namely "*Specific Target Organ Systemic Toxicity – Single Exposure*", "*Specific Target Organ Systemic Toxicity – Multiple Exposure*" and "*Hazardous to the Aquatic Environment Bioaccumulation Potential and Chronic Aquatic Toxicity*". Although the test methods used for determining environmental and health hazards in accordance with the GHS requirements are discretionary, they are required to be internationally acceptable.

2.5.2 Poison Centres

Although there is no national poison centre; various hospitals and independent facilities located at hospitals are fulfilling this role to a limited extent. Poison centres provide an information service in the event of poisoning or exposure to chemicals. Their services are primarily utilised by medical personnel and only about 20% of the calls received are from the public requesting information or reporting exposure incidents.

There are currently five poison centres operating in South Africa, namely Tygerberg Poison Information Centre, Western Cape; Red Cross Children's Hospital, Western Cape; Durban Poison Information Centre, Kwa-Zulu Natal; Garden City Poison Information Centre, Gauteng; and Bloemfontein Poison Information Centre, Free State. The Occupational and Environmental Health Research Unit (OEHRU) at the University of Cape Town (UCT) provides information on pesticides through a number of means, for example, running a Southern African Pesticides List Server; answering questions from the general public and public officials; training; and producing educational material.

These poison centres are characterised by a lack of resources (financial and capacity) which limit their services. The onus is on the poison centre to obtain the appropriate information from manufacturers about their chemical products in order to develop a database of information. Currently, there is no centralised information database that is maintained and updated with product information, as well as being accessible to the poison centres. Data held by them is generally limited to information on acute toxicity.

Each of the aforementioned poison centres has started initiatives to establish databases of information on hazardous chemicals. The Red Cross Children's Hospital is compiling a database of hazardous household chemicals and their active ingredient(s). The Tygerberg Poison Information Centre utilises a programme developed in the USA that provides information on poisoning symptoms and treatment that are categorised according to the active ingredient. This programme is updated in the USA every three months, at an annual cost of about R80 000.

2.5.3 Information Management

Reliable information is required for the implementation of the GHS. Firstly, access to hazard information is necessary to classify the chemicals in accordance with the criteria specified in the GHS in order to provide information to respond to emergency situations. Secondly, the competent authorities require relevant up-to-date information to monitor the implementation of the GHS and assess its impact on the health and safety of workers, the public and the environment.

Hazard information is largely available electronically from international databases and web sites. Key sites include the 'chemical safety information from intergovernmental organisations web site' that provide access to international literature, as well as links to many of the key chemical databases, such as the International Programme on Chemical Safety (IPCS) INCHEM and INTOX databases. No equivalent South African databases are available.

Safety data sheets are also accessible electronically from various web sites. One source for validated information on pure substances is available from the IPCS in the form of International Chemical Safety Cards (ICSC). An ICSC summarises essential health and safety information on chemicals for their use in the workplace.

On-line access to these databases provides up-to-date information on chemical management, including safety and toxicological information, laboratory test methods and practices. Access to many of the sites is freely available, but some sites require registration and a subscription payment in order to gain access and receive regular updated information. This information is particularly important for those manufacturers that determine the health and environmental toxicity of a product based on the chemical constituents and associated hazards rather than undertaking toxicity testing.

Various *emergency responders* also subscribe to electronic databases of chemical information in order to be able to access information quickly at the scene of an incident and to implement appropriate action. Due to the cost of the subscription, access to this hazard information is not available to all the emergency services in the country, particularly in the rural areas. Those emergency services that do have access to chemical information databases are often used as information centres by other local authorities.

There is often a lack of information regarding the *hazard associated with chemical wastes* and MSDSs may not be available. To mitigate the lack of information for transportation and disposal purposes, some contractors undertake analyses on the waste and have developed their own in-house databases. However, the smaller transport companies do not have facilities to verify the hazard class of a waste product and rely on the information that is provided by the consignor.

Information management systems are currently established within the relevant Government Departments for monitoring chemical management and occupational health and safety performance. These include:

- Industrial accident reports to the DOL;
- Transport accident reports to the NDOT;
- Occupational Health and Safety (OHS) data in the agricultural sector to the NDA;
- OHS data in the industrial sector to the DOL;
- Incidents of poisoning to the DOH;
- Registrar of pesticides and stock remedies at the NDA; and
- Register of toxic chemicals at the DOH.

These databases are currently operated autonomously to meet the specific needs of the Government Departments. Various pieces of legislation include the obligation to report to the appropriate Government Department and to notify them of any incident.

Reliable data forms the basis of enforcement, monitoring and intervention strategies. However, there are no standard requirements for data collection and often the information maintained is not sufficient to track frequency and type of incidents or to monitor effectiveness of health and safety programmes. The absence of information prevents stakeholders from prioritising interventions and limits the effective enforcement of legislation.