

ANNEXURE 1: DEFINITIONS AND ABBREVIATIONS

This annexure sets out the definitions and abbreviations used by the GHS, and, a gap analysis of words or terms used in the GHS.

A1.1 GHS Definitions and Abbreviations

The following definitions and abbreviations are provided in the GHS documentation (UN Document ST/SG/AC.10/C.4/2002/16, Dec.2002):

ADR means the European Agreement concerning the International Carriage of Dangerous Goods by Road, as amended;

Aerosols means any non-refillable receptacles made of metal, glass or plastics and containing a gas compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a foam, paste or powder or in a liquid state or in a gaseous state. Aerosol includes aerosol dispensers;

Alloy means a metallic material, homogeneous on a macroscopic scale, consisting of two or more elements so combined that they cannot be readily separated by mechanical means. Alloys are considered to be mixtures for the purpose of classification under the GHS;

ASTM means the “American Society of Testing and Materials”;

BCF means “bioconcentration factor”;

BOD/COD means “biochemical oxygen demand/chemical oxygen demand”;

CA means “competent authority”;

Carcinogen means a chemical substance or a mixture of chemical substances which induce cancer or increase its incidence;

CAS means “Chemical Abstract Service”;

CBI means “confidential business information”;

Chemical identity means a name that will uniquely identify a chemical. This can be a name that is in accordance with the nomenclature systems of the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS), or a technical name;

Competent authority means any national body(ies) or authority(ies) designated or otherwise recognized as such in connection with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS);

Compressed gas means a gas which when packaged under pressure is entirely gaseous at -50 °C; including all gases with a critical temperature \leq -50 °C;

Contact sensitizer means a substance that will induce an allergic response following skin contact. The definition for “contact sensitizer” is equivalent to “skin sensitizer”;

Corrosive to metal means a substance or a mixture which by chemical action will materially damage, or even destroy, metals;

Critical temperature means the temperature above which a pure gas cannot be liquefied, regardless of the degree of compression;

Dermal Corrosion: see *skin corrosion*;

Dermal irritation: see *skin irritation*;

Dissolved gas means a gas which when packaged under pressure is dissolved in a liquid phase solvent;

EC₅₀ means the effective concentration of substance that causes 50% of the maximum response;

EC Number or (ECN^o) is a reference number used by the European Communities to identify dangerous substances, in particular those registered under the European Inventory of Existing Commercial Chemical Substances (EINECS);

ECOSOC means the Economic and Social Council of the United Nations;

EINECS means “European Inventory of Existing Commercial Chemical Substances”;

ErC₅₀ means EC₅₀ in terms of reduction of growth rate;

EU means “European Union”;

Explosive article means an article containing one or more explosive substances;

Explosive substance means a solid or liquid substance (or mixture of substances) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic substances are included even when they do not evolve gases;

Eye irritation means the production of changes in the eye following the application of test substance to the anterior surface of the eye, which are fully reversible within 21 days of application;

Flammable gas means a gas having a flammable range with air at 20 °C and a standard pressure of 101.3 kPa;

Flammable liquid means a liquid having a flash point of not more than 93 °C;

Flammable solid means a solid which is readily combustible, or may cause or contribute to fire through friction;

Flash point means the lowest temperature (corrected to a standard pressure of 101.3 kPa) at which the application of an ignition source causes the vapours of a liquid to ignite under specified test conditions;

Gas means a substance which (i) at 50 °C has a vapour pressure greater than 300 kPa; or (ii) is completely gaseous at 20 °C at a standard pressure of 101.3 kPa;

GESAMP means “the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection of IMO/FAO/UNESCO/WMO/WHO/IAEA/UN/UNEP”;

GHS means “the Globally Harmonized System of Classification and Labelling of Chemicals”;

Hazard category means the division of criteria within each hazard class, e.g. oral acute toxicity includes five hazard categories and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally;

Hazard class means the nature of the physical, health or environmental hazard, e.g. flammable solid carcinogen, oral acute toxicity;

Hazard statement means a statement assigned to a hazard class and category that describes the nature of the hazards of a hazardous product, including, where appropriate, the degree of hazard;

IARC means the “International Agency for the Research on Cancer”;

ILO means the “International Labour Organization”;

IMO means the “International Maritime Organization”;

Initial boiling point means the temperature of a liquid at which its vapour pressure is equal to the standard pressure (101.3 kPa), i.e. the first gas bubble appears;

IOMC means the “Inter-organization Programme on the Sound Management of Chemicals”;

IPCS means the “International Programme on Chemical Safety”;

ISO means International Standards Organization;

IUPAC means the “International Union of Pure and Applied Chemistry”;

Label means an appropriate group of written, printed or graphic information elements concerning a hazardous product, selected as relevant to the target sector (s), that is affixed to, printed on, or attached to the immediate container of a hazardous product, or to the outside packaging of a hazardous product;

Label element means one type of information that has been harmonized for use in a label, e.g. pictogram, signal word;

LC₅₀ (50% lethal concentration) means the concentration of a chemical in air or of a chemical in water which causes the death of 50% (one half) of a group of test animals;

LD₅₀ means the amount of a chemical, given all at once, which causes the death of 50% (one half) of a group of test animals;

L(E)C₅₀ means LC₅₀ or EC₅₀;

Liquefied gas means a gas which when packaged under pressure, is partially liquid at temperatures above –50 °C. A distinction is made between:

- i) High pressure liquefied gas: a gas with a critical temperature between -50 °C and +65 °C; and
- (ii) Low pressure liquefied gas: a gas with a critical temperature above +65 °C;

Liquid means a substance or mixture which at 50 °C has a vapour pressure of not more than 300 kPa (3 bar), which is not completely gaseous at 20 °C and at a standard pressure of 101.3 kPa, and which has a melting point or initial melting point of 20 °C or less at a standard pressure of 101.3 kPa. A viscous substance or mixture for which a specific melting point cannot be determined shall be subjected to the ASTM D 4359-90 test; or to the test for determining fluidity (penetrometer test) prescribed in section 2.3.4 of Annex A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR);

MARPOL means the “International Convention for the Prevention of Pollution from Ships”;

Mixture means a mixture or a solution composed of two or more substances in which they do not react;

Mutagen means an agent giving rise to an increased occurrence of mutations in populations of cells and /or organisms;

Mutation means a permanent change in the amount or structure of the genetic material in a cell;

NGO means “non-governmental organization”;

NOEC means the “no observed effect concentration”;

OECD means “The Organization for Economic Cooperation and Development”;

OHSA means “The Occupational Health and Safety Act”.

Organic peroxide means a liquid or solid organic substance which contains the bivalent -O-O- structure and may be considered a derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals. The term also includes organic peroxide formulation (mixtures);

Oxidizing gas means any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does;

Oxidizing liquid means a liquid which, while in itself not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material;

Oxidizing solid means a solid which, while in itself not necessarily combustible, may, generally by yielding oxygen, cause, or contribute to, the combustion of other material;

QSAR means “quantitative structure-activity relationships”;

Pictogram means a graphical composition that may include a symbol plus other graphic elements such as a border, background pattern or colour that is intended to convey specific information;

Precautionary statement means a phrase (and/or pictogram) that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous product, or improper storage or handling of a hazardous product;

Product identifier means the name or number used for a hazardous product on a label or in the SDS. It provides a unique means by which the product user can identify the substance or mixture within the particular use setting e.g. transport, consumer or workplace;

Pyrophoric liquid means a liquid which, even in small quantities, is liable of igniting within five minutes after coming into contact with air;

Pyrophoric solid means a solid which, even in small quantities, is liable of igniting within five minutes after coming into contact with air;

Pyrotechnic article means an article containing one or more pyrotechnic substances;

Pyrotechnic substance means a substance or mixture of substances designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative self-sustaining exothermic chemical reactions;

Readily combustible solid means powdered, granular, or pasty substance or mixture which is dangerous if it can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spreads rapidly;

Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria means the latest revised edition of the United Nations publication bearing this title, and any published amendment thereto;

Recommendations on the Transport of Dangerous Goods, Model Regulations means the latest revised edition of the United Nations publication bearing this title, and any published amendment thereto;

Refrigerated liquefied gas means a gas which when packaged is made partially liquid because of its low temperature;

Respiratory sensitizer means a substance that induces hypersensitivity of the airways following inhalation of the substance;

RID means The Regulations concerning the International Carriage of Dangerous Goods by Rail [Annex 1 to Appendix B (Uniform Rules concerning the Contract for International Carriage of Goods by Rail) (CIM) of COTIF (Convention concerning international carriage by rail)], as amended;

SAR means “Structure Activity Relationship”;

SDS means “Safety Data Sheet”;

Self-Accelerating Decomposition Temperature (SADT) means the lowest temperature at which self-accelerating decomposition may occur with substance as packaged;

Self-heating substance means a solid or liquid substance, other than a pyrophoric substance, which, by reaction with air and without energy supply, is liable to self-heat; this substance differs from a pyrophoric substance in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days);

Self-reactive substance means a thermally unstable liquid or solid substance liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes substances or mixtures classified under the GHS as explosive, organic peroxides or as oxidizing;

Serious eye damage means the production of tissue damage in the eye, or serious physical decay of vision, following application of a test substance to the anterior surface of the eye, which is not fully reversible within 21 days of application;

Signal word means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The GHS uses ‘Danger’ and ‘Warning’ as signal words;

Skin corrosion means the production of irreversible damage to the skin following the application of a test substance for up to 4 hours;

Skin irritation means the production of reversible damage to the skin following the application of a test substance for up to 4 hours;

Skin sensitizer means a substance that will induce an allergic response following skin contact. The definition for “skin sensitizer” is equivalent to “contact sensitizer”;

Solid means a substance or mixture which does not meet the definitions of liquid or gas;

SPR means “Structure Property Relationship”;

Substance means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition;

Substance which, in contact with water, emits flammable gases means a solid or liquid substance or mixture which, by interaction with water, is liable to become spontaneously flammable or to give off flammable gases in dangerous quantities;

Supplemental label element means any additional non-harmonized type of information supplied on the container of a hazardous product that is not required or specified under the GHS. In some cases this information may be required by other competent authorities or it may be additional information provided at the discretion of the manufacturer/distributor;

Symbol means a graphical element intended to succinctly convey information;

Technical name means a name that is generally used in commerce, regulations and codes to identify a substance or mixture, other than the IUPAC or CAS name, and that is recognized by the scientific community. Examples of technical names include those used for complex mixtures (e.g., petroleum fractions or natural products), pesticides (e.g., ISO or ANSI systems), dyestuffs (Colour Index system) and minerals;

UNCED means the "United Nations Conference on Environment and Development";

UNCETDG/GHS means the "United Nations Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals";

UNITAR means "the United Nations Institute for Training and Research";

UNSCGHS means the "United Nations Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals";

UNSCETDG means the "United Nations Sub-Committee of Experts on the Transport of Dangerous Goods".

A1.2 Comparison of GHS Definitions with Definitions Used in the South African Context

Term defined	GHS Definition	Definitions contained in South African law	Comment
<p>Label</p>	<p>means an appropriate group of written, printed or graphic information elements concerning a hazardous product, selected as relevant to the target sector(s), that is affixed to, printed on, or attached to the immediate container of a hazardous product, or to the outside packaging of a hazardous product;</p>	<p>The term is not defined in the Occupational Health and Safety Act. SABS 072 and 028 do not define the term.</p> <p>The Hazardous Substances Act defines the term as follows - “when used as a noun, means any brand or mark or any written, pictorial or other descriptive matter appearing or attached to or packed with and grouped hazardous substance or its package, and referring to such substance, and when used as a verb, means brand or mark or attach or provide in any other manner with, any written, pictorial or other descriptive matter”.</p> <p>Certain of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act regulations define label as meaning “any written, printed or graphic matter, in any manner whatever, is disclosed on such container and which states the particulars which, in terms of these regulations, are to be furnished in respect of the agricultural remedy concerned...”.</p> <p>Labels (or placards) are not defined in the National Road Traffic Act. However, SABS 0232-1 which is incorporated into the regulations passed in terms of the Act defines a dangerous goods placard “<i>Single placard with separate delineated zones for goods identification, telephonic advice numbers and the appropriate hazard class diamond</i>”.</p> <p>A split placard is defined as the “[S]ystem of placarding where a rectangle that contains the UN number and a hazard class diamond are affixed in close proximity, as required for freight containers, in accordance with the IMDG regulations”.</p>	<p>The absence of definition or differing definitions in South African legislation is not a material gap in view of the fact that the ordinary dictionary definition of the term is relied on in the absence of a legislative definition and this would cover much of what is intended by the GHS definition. Where specificity is required i.e. clarity regarding what the appropriate information would be and where the label should be fixed, such details can be dealt with in regulation to ensure that there is no gap between domestic and GHS requirements.</p>

Term defined	GHS Definition	Definitions contained in South African law	Comment
Mixture	means a mixture or a solution composed of two or more substances in which they do not react;	<p>The Hazardous Substances Act uses the term, but does not define it.</p> <p>The term is also not defined in the Occupational Health and Safety Act, Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act or the National Road Traffic Act.</p> <p>SABS 0228 does cover substances and mixtures of substances but does not include a definition for mixture.</p> <p>SABS 0228 also makes reference to preparations in class 6.1 but a definition is not included. Class 6.2 covers biological products which are substances derived from living organisms.</p> <p>SABS 0265 uses the term “preparation” which is defined as “a mixture or solution composed of two or more substances”.</p>	<p>The use of mixtures in GHS means that a solution that contains two or more substances that are hazardous must be classified accordingly and labelled. It therefore takes into account all the ingredients.</p> <p>In the absence of test data on the actual mixture, the GHS provides methodologies for the classification of mixtures, which are based on either bridging principles or the information available regarding the individual ingredients.</p> <p>Currently, SABS 0228 Class 6.1 preparations and pesticides are classified according to the hazard properties of the active ingredient(s). The term active ingredient is used in SABS 0228. A gap could therefore arise when only the active component in a mixture is considered for classification.</p> <p>SABS 0265 refers to the dangerous constituents of the preparation.</p>
SDS	The GHS system does not define SDS in the list of definitions, but merely states that it means a safety data sheet.	<p>The primary requirements for SDS are found in the Occupational Health and Safety Act GAR regulations which refer to <u>material</u> safety data sheets (MSDS). Like the GHS, the term is not defined, but the requirements of what the MSDS must contain are prescribed by the regulations.</p> <p>The National Road Traffic Act contains requirements pertaining to Tremcards which are defined as “the transport emergency card listing the hazards and emergency information for a material being transported for use by the driver during an incident, or by the emergency services, if required”.</p>	<p>A comparative analysis of the MSDS and Tremcard provisions with the SDS requirements of the GHS is undertaken in text.</p> <p>The GHS does not require a Tremcard.</p>

Term defined	GHS Definition	Definitions contained in South African law	Comment
Substance	The GHS states that a substance “means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition”	<p>South African legislation uses different terms for reference to regulated chemicals.</p> <p>In the Occupational Health and Safety Act, the definition of a “<i>hazardous chemical substance</i>” is “any toxic, harmful, corrosive, irritant or asphyxiant substance or a mixture of such substances for which an occupational exposure limit is prescribed, or such limit is not prescribed but which creates a hazard to health”.</p> <p>The Hazardous Substances Act refers to “Group I, Group II or Group III hazardous substance’ means a substance, mixture of substances, product or material declared in terms of section 2(1) to be a Group I, Group II or Group III hazardous substance respectively”. (Section 2(1) empowers the Minister to make such a declaration where a substance or mixture of substances which, in the course of reasonable handling or use, including ingestion, might by reason of its toxic, corrosive, irritant, strongly sensitising or flammable nature, or because it generates pressure through decomposition, heat or other means, cause injury, ill health or death to human beings</p> <p>The Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act contains definitions for fertilizers and agricultural remedies.</p> <p>An “agricultural remedy’ means any chemical substance or biological remedy, or any mixture of combination of any substance or remedy intended or offered to be used –</p> <p>(a) <i>for the destruction, control, repelling, attraction or prevention of any undesirable microbe, alga, nematode, fungus, insect, plant, vertebrate, invertebrate, or any product thereof, but excluding any chemical substance, biological remedy or other remedy in so far as it is controlled under the Medicines</i></p>	<p>As a result of the fragmented legislation on chemical management, South African legislation does not define “substance” <i>per se</i>, but uses a range of different terminology for chemicals which would be covered by GHS. The scope of substances that may fall within the ambit of the different legislation may accordingly vary. This risk is minimised however by the incorporation of SABS 0228 as the method of classification in most of the Acts).</p> <p>Notwithstanding the different terminology, most of the definitions in South African legislation qualify the scope of the definition by adding the rider that the substance must pose a risk to health and/or the environment. Furthermore, the SABS definition of dangerous goods requires the risk to be “significant”. The GHS definition does not have these qualifications.</p> <p>Furthermore, the transport definitions exempt quantities below a certain level which is not provided for in GHS. Jenny & Julie Are there not cut-off concentrations in the in parts of the GHS.</p> <p>The GHS provides that if a chemical exhibits hazardous properties it must be classified according to specified criteria, a MSDS must be compiled and the appropriate labelling used. South African legislation may therefore require harmonisation to ensure that it collectively would facilitate the implementation of the GHS to all chemicals.</p>

Term defined	GHS Definition	Definitions contained in South African law	Comment
		<p><i>and Related Substances Control Act, 1965 (Act 101 of 1965), or the Hazardous Substances Act, 1973 (Act 15 of 1973); or</i></p> <p><i>(b) plant growth regulator, defoliant desiccant or legume inoculants, and anything else which the Minister has by notice in the Gazette declared as an agricultural remedy for the purposes of this Act”</i></p> <p>“fertilizer” means any substance which is intended or offered to be used for improving or maintaining the growth of plants or productivity of the soil”</p> <p>SABS 0228 includes an annexure listing dangerous goods and gives the information required for their identification and classification.</p> <p>The National Road Traffic Act and the Railway Safety Regulator Act use the term ‘dangerous goods’ which means “ the commodities, substances and goods listed in the standards specification of the South African Bureau of Standards SABS 0228 ‘The identification and classification of dangerous goods’. The definition of ‘dangerous substances and goods’ in the code is “the commodities, substances and goods that are capable of posing a significant risk to health and safety or to property or the environment during transport and that are listed in B2 and Annex C”. It should be noted that the regulations do not apply to ‘exempt quantities’ which are defined as those that are exempted in accordance with SABS 02321 and SABS 0229</p> <p>SABS 0265 defines substance as “A chemical element and its compounds, either in the natural state or obtained by a production process, including any additive necessary to preserve the stability of the product and any impurity derived from inevitably from the process used, but excluding any solvents that can be separated without affecting the stability of the substance or changing the composition. An annexure is</p>	

Term defined	GHS Definition	Definitions contained in South African law	Comment
		included that lists dangerous substances and the information required for classification and labelling.	