

CTMM POLICY ON THE CONTROL OF CHEMICAL SUBSTANCES

A. POLICY

To provide a safe and healthy workplace for all CTMM employees.
To avoid environmental damage.

1. SCOPE

All CTMM departments where hazardous or potentially Hazardous Chemical Substances (HCS) are used, stored, transported or disposed.

2. OBJECTIVES

- 2.1 To ensure that hazardous or potentially hazardous substances are managed according to the CTMM policy and legal requirements;
- 2.2 To avoid the potential liabilities and damage to health & safety from irresponsible management of hazardous substances.
- 2.3 To avoid possible environmental pollution due to the accidental spillage or release of HCS.

3. REFERENCES

- 3.1 SABS Code 0228: The Identification and Classification of Dangerous Substances and Goods.
- 3.2 SABS Code 0229: Packaging of Dangerous Goods for Road and Rail Transportation in South Africa.
- 3.3 SABS Code 0263: The Warehousing of Dangerous Goods - Enclosed Storage Areas and Covered and uncovered Outdoor Storage Yards.
- 3.4 Hazardous Chemical Substances Act (Act 15 of 1973)
- 3.5 Occupational Health and Safety Act (Act 85 of 1993)
- 3.6 General Machinery Regulation 8, promulgated under the Occupational Health and Safety Act (Act 85 of 1993)
- 3.7 General Machinery Regulation 2.1, promulgated under the Occupational Health and Safety Act (Act 85 of 1993)
- 3.8 General Safety Regulation 4(10), promulgated under the Occupational Health and Safety Act (Act 85 of 1993)
- 3.9 National Building Regulations Act (Act 103 of 1977)
- 3.10 Mine Health and Safety Act, 29 of 1996, Regulation 9.2

- 3.11 SABS Code 072: The Safe Handling of Pesticides
- 3.12 0400 Part O: The application of the National Building Regulations
- 3.13 The National Environmental Management Act, 1998 (Act 107 of 1998)

4. DOCUMENTATION

- 4.1 Material Safety Data Sheets
- 4.2 Departmental Chemical Inventory (Annexure A)
- 4.3 List of Notifiable Substances (Annexure B)

5. DEFINITIONS

UNO No.: United Nations Organisation Chemical Identification Code Number.

Group I Hazardous Chemical Substances: Poisonous (toxic) substances, as specified in Appendices E and F of SABS Code 0228: The Identification and Classification of Dangerous Substances and Goods.

Group II Hazardous Chemical Substances: All substances and goods specified in the SABS Code 0228: The Identification and Classification of Dangerous Substances and Goods, with the exception of Class 1 (Explosives) and Class 7 (Radioactive substances)

Group III Hazardous Chemical Substances: Electronic products as declared so in terms of R1302, 14 June 1991.

Group IV Hazardous Chemical Substances: Radio-active materials, as defined in the Nuclear Energy Act, 1993.

Health & Safety Representative: A departmental representative elected in terms of section 17 or appointed in terms of section 19 in the Occupational Health & Safety Act, 85 of 1993.

Hazardous Chemical Substances (HCS): Any toxic, harmful, corrosive, irritant or asphyxiant substance, or mixture of such substance. Chemical substances which have been declared as Group I,II,III or IV hazardous substances in terms of the Hazardous Substances Act (Act 15 of 1973);

Material Safety Data Sheets (MSDS): A document, issued in terms of the Occupational Health and Safety Act (Act 85 of 1993), which lists information about the handling, storage, transportation and emergency measures relevant to a dangerous chemical.

Occupational Safety Officer: A person employed in the Occupational Health & Safety Section of the CTMM, sub-section Occupational Safety.

6. RESPONSIBILITY

Prime: Head of Division

Secondary: Head of Occupational Health and Hygiene
Head of Occupational Safety

Head of Procurement
Head of Environmental Management Systems

The execution of this policy is the responsibility of the Head of the Division which is in line with his obligations to provide and maintain a safe and healthy work environment as per the CTMM Health & Safety Policy.

The Head of Occupational Health and Hygiene shall provide an advisory service in line with this policy which may in some instances include the rendering of Occupational Hygiene measurements. Any costs incurred through the appointment of external consultants or analysis fees on samples taken will be for the specific department. The Head of Division may appoint a Chemical Substance Co-ordinator in writing to assist in the execution of this policy.

The Head of Environmental Resource Management shall provide an environmental advisory service in line with this policy.

Any delegations made in respect of this policy by the Head of the Division to subordinates must be done in writing.

7. EXECUTION

7.1 Identification and Control of Hazardous Chemical Substances

- 7.1.1 The Head of the Division shall be responsible for developing and maintaining an inventory of all chemicals in his / her area of responsibility. To assist the Head of Division in the execution of this policy, he / she may appoint a Hazardous Substances Co-ordinator.
- 7.1.2 The inventory shall indicate which chemicals shall be considered hazardous, based on the definitions in Section 5 above.
- 7.1.3 The Head of the Division shall, in collaboration with the Departmental Hazardous Substance Co-ordinator for the relevant areas, compile a Departmental Chemical Inventory (Annexure A).
- 7.1.4 This inventory shall be made available to the Procurement Manager who will distribute it to his staff. No chemicals that do not appear on this list may be purchased without prior reference to the Departmental Hazardous Substance Co-ordinator for approval and inclusion on the inventory.
- 7.1.5 The Head of a Division who has any substance set out in Annexure B (List of Notifiable Substances) or any mixture thereof, in a quantity which at any time is equal to or in excess of the quantity specified opposite that substance on his premises in a single fixed storage vessels, must notify the divisional inspector, Department of Labour, thereof.
- 7.1.6 The Departmental Hazardous Substance Co-ordinator shall be the only person/s authorized to update the inventory and will issue the Procurement Manager with the latest update. **The legal requirement regarding the obtainment of MSDS's shall be stipulated (and included in the general conditions for people who would want to register as providers) by the procurement manager to all potential suppliers to the CTMM.**

- 7.1.7 No HCS shall be allowed on site without an accompanying Material Safety Data Sheet, unless the relevant MSDS's is already available on site. The area health & safety representative or any other appointed person shall endeavour to obtain MSDS's for non-hazardous chemicals as well, although this shall not be compulsory.
- 7.1.8 MSDS shall be kept on site by the Departmental Hazardous Substance Co-ordinator and shall be available to occupational health clinics and accessible to all employees who may work with or could possibly come into contact with the relevant HCS's or potentially hazardous chemicals.
- 7.1.9 Information relevant to health, safety and environmental hazards indicated in the MSDS shall be communicated (by the employee's supervisor) to those using the HCS in an effective manner (refer to policy on HCS).

7.2 Storage of Hazardous Substances

- 7.2.1 Control of temporary storage of HCS and potentially hazardous chemicals shall be the responsibility of the Departmental Hazardous Chemical Substance Co-ordinator unless otherwise indicated in a departmental operating procedure.
- 7.2.2 Provisions indicated in the SABS Code 0263 shall be adhered to where quantities meet or exceed those indicated in Annex A of the Code. Where quantities are less than these levels, the provisions of the Code shall be followed as guidelines.
- 7.2.3 Where required, permits for the storage of flammable substances shall be obtained in accordance with the provisions of the National Building Act (Act 103 of 1977) and kept on site by the area safety & health representative or any other person appointed by the head of division.
- 7.2.4 Flammable storage areas shall be clearly labelled FLAMMABLES (or equivalent).
- 7.2.5 A firm waterproof base shall be provided for the storage of HCS's. Steps shall be taken to ensure the area is protected from the ingress of stormwater and the confinement of leakages wherever possible.
- 7.2.6 Access to chemical storage areas shall be controlled by appropriate means, such as locking or demarcation.
- 7.2.7 HCS shall be stored in their original (supply) containers which shall exhibit labels according to their contents. Where they are decanted for any purpose, suitable new storage containers shall be clearly labelled according to their contents. The label shall at least contain the industrial name (which will make known to workers their identity), the chemical name/s of the specific hazardous substance/s contained therein, brief clear instructions on the correct use/disposal of the product, the necessary precautions to avoid exposure or harm, toxicity and any hazards associated with their use and any safety precautions to be observed, of the chemical contained. Waste chemicals should be marked as such.
- 7.2.8 Where the marking of chemicals may be impracticable because of the size of the container or nature of the package, the container should be readily identifiable by means of tagging or accompanying documents. The particulars should always be visible on the container during each stage of the supply and use and disposal thereof.

- 7.2.9 Incidents resulting in the spillage or mishandling of HCS in storage shall be reported to the employer and the designated occupational safety officer and investigated. The Deputy Manager: Environmental Management Systems shall be informed of any impacts to the environment due the spillage or mishandling of HSC in storage, use and disposal. Incidents reported to the Environmental Management Representative of each section.
- 7.2.10 Storage areas shall be equipped with biodegradable (if possible) spill reaction equipment capable of at least absorbing 70% of possible worst case spill scenarios.
- 7.2.11 Provisions indicated in this section shall be monitored regularly by the area health and safety representative or any other person appointed for this purpose.

7.3 Bunding of above-ground storage tanks

- 7.3.1 All above-ground bulk chemical storage tanks shall have bunding walls capable of holding 110% of the volume of the tank unless effluent is directed to approved treatment facilities prior to release.

Refer to the General Safety Regulation 4(10).
- 7.3.2 Where there is more than one above ground storage tank per bunding wall, the bunding wall shall be capable of holding 110% of the total volume of all the tanks inside the bunding wall. Provided that the chemicals in the separate holding tanks are compatible and will not react violently upon contact.
- 7.3.3 Bunding walls shall be checked for integrity during the health & safety inspections conducted by the health and safety representatives.
- 7.3.4 No process effluents, or any effluent stream except that of clean storm water, shall be routed to the stormwater drainage system.
- 7.3.5 Appropriate storage of hazardous substances and hazardous wastes shall be carried out to minimise the possibility of spillage or leakage into the storm water or sewage drainage systems.
- 7.3.6 All effluent from process operations shall be routed to drains flowing to the municipal sewage treatment works, unless permit conditions or legal requirements specify otherwise, such as pre-treatment of effluent.

7.4 Grease Trap Maintenance

- 7.4.1 Where process effluent may contain residues of oils or greases, or solid particles, a grease trap shall be installed which shall be capable of dealing effectively with the identified effluent stream. The design of any new grease trap shall be approved by the GMR 2.1 appointee.
- 7.4.2 The grease trap shall be cleaned and maintained so as to ensure effective separation of oils, greases and solids from the effluent stream. The grease trap shall be inspected on a monthly basis to ensure that the grease trap is operating effectively. The area safety & health representative or any other person appointed

for this purpose shall keep a log sheet of grease trap inspections indicating the results thereof.

- 7.4.3 The sludge removed from the grease trap shall be regarded as hazardous waste and handled accordingly.
- 7.4.4 The contracting company responsible for removal of grease-trap sludge shall wherever possible undertake to separate the oil and water fractions and to recycle the waste oil.
- 7.4.5 Invoices from the contracting company and the relevant waste manifest shall be filed by the area manager.

7.5 Inventory control to avoid expiry

- 7.5.1 In order to minimise the wastage and possible disposal of hazardous chemicals that have exceeded their expiry date, a monthly audit of the volumes of all hazardous chemical substances in the hazardous chemicals and flammable stores shall be done by the area safety & health representative or any other person appointed for such purpose.
- 7.5.2 Should any chemicals be found to have exceeded their expiry age, they shall be returned to their manufacturer if possible. If returning chemicals to their manufacturer is not possible, these chemicals shall be disposed off as hazardous waste.

7.6 Handling and Transportation of Hazardous Chemical Substances

- 7.6.1 HCSs shall be handled with due care by all employees entrusted to use them.
- 7.6.2 In order to avoid the spread of contamination of Hazardous Chemical Substances, a container or a vehicle in which a Hazardous Chemical Substances is transported, must be clearly identified, classified and packed in accordance with SABS 0228 and SABS 0229.
- 7.6.3 Transportation of HCS shall be kept to a minimum and those involved shall be trained to ensure that transportation occurs with minimum risk to health, safety and the environment.
- 7.6.4 Small amounts of HCS may be decanted for operational use into approved and appropriately labeled containers. Containers shall be kept tightly closed when not in use.
- 7.6.5 The provisions indicated in the relevant MSDS shall be followed for handling of the HCS, with appropriate protective equipment being made available by the departmental management.
- 7.6.6 Specific provisions for the handling of HCS will depend on the conditions of use in any specific case. These shall be identified by the area manager and the associated risks to health evaluated.

- 7.6.7 Where fumes or vapours may be emitted during use, these shall be monitored according to the provisions of the Occupational Health and Safety Act (Act 85 of 1993) – refer to the hazardous chemical substances policy.

7.7 Disposal of Containers, Waste Product or Unused Product

- 7.7.1 Expired chemical or hazardous chemical products shall be returned to the supplier, if possible, or regarded as a hazardous waste. If required, special disposal requirements shall be included in the departmental procedure.
- 7.7.2 Chemical wastes from operations in which HCS's are used shall be regarded as hazardous, unless a specific analysis has indicated the waste to be non-hazardous.
- 7.7.3 All users of HCS shall ensure that, wherever possible, containers are properly cleared of all product, perforated and regarded as non-hazardous solid waste and disposed or recycled.
- 7.7.4 If the residue of any HCS in a container may pose a threat to safety and health or the environment, that container shall be disposed of as hazardous waste.

7.8 Small Spills of Hazardous Substances

- 7.8.1 A procedure shall be drawn up by departments for the handling of spills.
- 7.8.2 Small spills shall be regarded as spills of one to five liters.
- 7.8.3 Small spills of HCS shall be cleaned up immediately using an appropriate non-combustible sorbent material. In the case of oil spills, it is recommended that departments make use of materials which will encourage biodegradation of oils (such as Peatsorb), as these may safely be disposed of in general (non-hazardous) landfill sites.
- 7.8.4 Where small spills of oily substances occur on soil, the ground may be watered to bring polluted oil to the surface and the polluted soil removed and disposed of as hazardous waste.
- 7.8.5 management shall ensure that employees making use of HCS's are trained to deal with small spills.
- 7.8.6 Any spillage or mishandling of HCS shall be reported and investigated according to the incident reporting policy.

7.9 Large Spills of Hazardous Substances

- 7.9.1 Spills of up to 200 liters may be dealt with by on-site trained personnel.
- 7.9.2 Spills of over 200 liters, as well as any large spill into the stormwater drainage system, shall be regarded as an emergency situation and assistance with clean-up shall be acquired.

- 7.9.3 Where large spills occur on permeable surfaces such as soils, the relevant areas shall be cleaned and the soil restored to its original condition through bioremediation or removal / replacement if necessary. Contaminated soil must be disposed of as hazardous waste.
- 7.9.4 Potential emergencies with regard to HCS's shall be incorporated into the relevant departmental environmental management plans.
- 7.9.5 All spills shall be reported and investigated according to the incident reporting procedure, and discussed in the Departmental Health and Safety Meeting to ensure a recurrence is avoided. . Spillage incidents resulting in large scale environmental pollution shall be reported to the Deputy Manager: Environmental Management Systems for investigation purposes.

8. ANNEXURES

Annexure A: Departmental Chemical Inventory

Annexure B List of Notifiable Substances

ANNEXURE B**LIST OF NOTIFIABLE SUBSTANCES**

UNO ID No.	Substance	Quantity (Tons)
1001	Acetylene (dissolved)	2
1005	Ammonia (anhydrous, liquified and solutions containing over 50% ammonia)	20
1010	Butadiene	25
1031	Carbon disulphide	20
1017	Chlorine	10
1154	Diethylamine	20
1155	Diethyl Ether	20
1033	Dimethyl Ether	20
1032	Dimethylamine (anhydrous)	20
1160	Dimethylamine (solution)	20
1035	Ethane (compressed)	15
1961	Ethane (refrigerated liquid)	15
1962	Ethylene (compressed)	15
1038	Ethylene (refrigerated liquid)	15
1036	Ethylamine	25
1040	Ethylene oxide	5
1050	Hydrogen Chloride (anhydrous)	10
1051	Hydrogen Cyanide (anhydrous)	10
1052	Hydrogen Fluoride (anhydrous)	10
1969	ISO-Butane	25

1055	ISO-Butylene (Isobutene)	25
1075	LPG (Liquid Petroleum Gas)	25
1971	Methane (compressed)	15
1011	n-Butane	25
1012	n-Butylene (Butene)	25
1076	Phosgene	2
1978	Propane	25
1077	Propylene	25
1079	Sulphur Dioxide (liquified)	15
1829	Sulphur Trioxide (liquified)	15
1083	Trimethylamine (anhydrous)	25
1086	Vinyl Chloride	25

