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Appendix 9: Management of Hazardous Chemical Substances Procedure


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1. Purpose

The purpose of this procedure is to:


- Ensure that hazardous chemical substances are correctly controlled, stored and disposed of.
- To protect the environment from harm caused by hazardous chemical substances.

2. Scope

This procedure is applicable to all areas under the management of Assmang (Pty) Ltd – Black Rock Mine Operations as well as to its employees and those doing work on its behalf.

3. References

- 3.1. National Environmental Management Act (Act No. 107 of 1998)
- 3.2. Hazardous Substances Act (Act No. 15 of 1973)
- 3.3. National Environmental Management: Biodiversity Act , 2004 – Alien and Invasive Species Regulations
- 3.4. Government Notice. R: 1179 Hazardous Chemical Substances Regulations, 1995
- 3.5. PROCEDURE: Waste Management – PRO-SHE-E-Ge-G-1233
- 3.6. PROCEDURE: Spill Management and Specifications for Bundwalls – PRO-SHE-E-Ge-G-1520

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- 3.7. Data to be included on Safety Data Sheets (SDS) - Appendix A
- 3.8. Department of Water Affairs Working for-Water Policy on the use of herbicides for the control of alien vegetation
- 3.9. Black Rock Emergency Telephone List
- 3.10. Black Rock Emergency Telephone Numbers and Addresses

4. Abbreviations & Definitions


To ensure consistency in the interpretation and application of this procedure, definitions and abbreviations of the key terminologies used in this document are outlined in this section and should be borne in mind when applying the procedure.

4.1. DEFINITIONS

- **Environment:** Means the surroundings in which the mine operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.
- **Hazardous chemical:** refers to any toxic, harmful, corrosive, irritant or asphyxiant substance, or a mixture of such substances for which –
 - a) an occupational exposure limit is prescribed; or
 - b) an occupational exposure limit is not prescribed; but which creates a hazard to health.
- **Pesticides:** Pesticides is a collective term for Herbicides, Insecticides, Fungicides, etc.
- **Herbicides:** Herbicides is a chemical mixture, which contains an active ingredient to eradicate weeds.

4.2. ABBREVIATIONS


- BRMO - Black Rock Mine Operations
- MSDS- Material Safety Data Sheets
- SANS - South African National Standard
- PPE - Personal Protective Equipment
- RACI - Responsible, Accountable, Consulted, and Informed

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5. Responsibilities

Table 1: Responsibilities, authorities and accountabilities of employees pertaining to Management of Hazardous Chemical Substances

Roles	RESPONSIBILITY & AUTHORITY Responsible, Accountable, Consulted, Informed (RACI) MATRIX								
	SHERQ Manager	Environmental Specialist	Environmental Officers	Departmental Heads	Section Heads/Foremen	Section Personnel	Contractors/Visitors	Waste Site Operator	Salvage Yard Supervisor
1. PROCEDURE									
Development & review of the procedure	A	R	C	I	I	I	I	I	I
Training of Section personnel on the procedure	I	A	I	C	R	I	I	I	I
Enforcement of the procedure	I	A	R	R	R	I	I	I	I
2. IMPLEMENTATION									
Correct storage of hazardous chemical substances	I	I	C	A	A	R	R	R	R
Appropriate off-site disposal of hazardous waste	C	A	R	I	I	I	I	I	I

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6. General

6.1. This procedure applies to all areas on the mine:

- Where hazardous chemicals are handled, stored and/or disposed;
- Including mine perimeter and plant areas, where pesticides are applied.

6.2. It is the responsibility of the Section Heads to ensure adherence to this procedure in their area(s) of responsibility, where hazardous chemicals are handled, stored and/or disposed of. The Materials Manager or alternate is responsible for maintaining an up-to-date list of all substances used at Black Rock Mine Operations.


7. Description of Procedure

7.1. Hazardous Substances Purchasing Control

- 7.1.1. The co-ordination for the control of hazardous substances is the responsibility of the Materials Manager or alternate.
- 7.1.2. The Buyer is to ensure that all chemicals purchased are approved by the Occupational Medical Practitioner, the Environmental Specialist and the Occupational Hygienist.
- 7.1.3. A form entitled: **Hazardous Chemical Substances Procurement Control Form** shall be signed off by the Occupational Medical Practitioner, the Environmental Specialist and Occupational Hygienist prior to Hazardous Chemical Substances being bought onto Black Rock Mine Operations.
- 7.1.4. It is the responsibility of the Materials Manager or alternate to ensure that the supplier completes and submits a hazardous substances record sheet for each new chemical introduced on the property.
- 7.1.5. No samples are allowed inside the mining area without prior notice and approval by the Materials Manager or alternate.

7.2. Hazardous Chemical Storage and Handling

- 7.2.1. Substances which are "hazardous" will have the physical details together with precautions and remedial actions recorded on the 16 point Material Safety Data Sheets (MSDS), refer to Appendix A.
- 7.2.2. Every section supervisor must keep an indexed register of all substances record sheets for every chemical used or stored within his/her area of responsibility available at hand for immediate reference in an emergency. The Materials Manager or alternate will supply the Material Safety Data Sheets.
- 7.2.3. It is the responsibility of every supervisor to ensure that all personnel within his/her area of responsibility are fully instructed and conversant in the use, handling and storage of hazardous substances.
- 7.2.4. Every section supervisor will ensure that all designated personnel administering first aid and fire-fighting adhere to the procedures and instructions laid down in the Material Safety Data Sheets and the mine procedures.

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- 7.2.5. The Section Head or his/her appointee must make a physical check of all chemicals used, at three (3) monthly intervals. Record must be kept on the appropriate control sheet provided in the register to ensure that the records are kept up to date.
- 7.2.6. Spillage on any surface should be cleaned immediately as prescribed in the Material Safety Data Sheets.
- 7.2.7. Wearing of personal protective equipment is compulsory when exposed to any hazardous substance.

7.3. Hazardous Chemical Disposal

- 7.3.1. Every Section Head is to ensure that all chemicals when no longer required in his/her respective area of responsibility are disposed of via the approved methods.
- 7.3.2. It is the responsibility of every Section Head to ensure that a copy of the MSDS is attached to every container (which has been wrapped in plastic, suitably sealed and stored) ready for disposal.
- 7.3.3. Containers for hazardous substances are not to be used for drinking water, where possible, empty containers to be destroyed by punching holes through the bottom of the container.
- 7.3.4. Hazardous waste is to be disposed of as prescribed in the Waste Management Procedure.

7.4. Management of Group III and IV Hazardous Substances

- 7.4.1. No Group III hazardous substance shall be acquired and used at BRMO without prior written authorization from the National Department of Health, in terms of section 3(b) of the Hazardous Substances Act, 1973 (Act 15 of 1973);
- 7.4.2. The authorization referred to above shall be valid for a period as prescribed by the Department;
- 7.4.3. A permanent stock record shall be opened for each Group III hazardous substance used at BRMO;
- 7.4.4. The removal of any Group III hazardous substance for offsite disposal shall be done under the supervision of the Radiation Protection Officer, or in his absence, by the acting Radiation Protection Officer;
- 7.4.5. Manifest and safe disposal certificates shall be obtained and retained for each substance disposed offsite.
- 7.4.6. No Group IV hazardous substance shall be acquired and used at BRMO without prior written authorization from the National Department of Health, in terms of section 2 of the Hazardous Substances Act, 1973 (Act 15 of 1973);
- 7.4.7. The authorization referred to above shall be valid for a period as prescribed by the Department;
- 7.4.8. A radiation protection officer and acting radiation protection officer shall be appointed by BRMO for the purpose of ensuring compliance with all the legislations and regulations pertaining to Group IV hazardous substances;
- 7.4.9. All legal documentation pertaining to Group IV hazardous substances, including authorizations shall be kept by the appointed radiation protection officer;

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- 7.4.10. A permanent stock record shall be opened for each Group IV hazardous substance used at BRMO;
- 7.4.11. The record shall be inspected by the radiation control officer at least once a month;
- 7.4.12. All the areas where Group IV hazardous substances used shall be monitored for radiation levels and contamination at a frequency specified by the Radiation Control Officer or alternate;
- 7.4.13. The equipment used for monitoring shall be calibrated;
- 7.4.14. Records of monitoring and calibration shall be kept;
- 7.4.15. A register of radiation workers shall be opened and structured in consistent with regulation 14 of the Regulations relating to Group IV hazardous substances;
- 7.4.16. A health record shall also be opened of BRMO's employees who may be exposed to radiation levels, with exception of cases where exposure is due to medical examination as a patient;
- 7.4.17. All BRMO employees who may potentially be exposed to radiation with the exception to the circumstance outlined above shall have their health monitored at a specified frequency determined by the Occupational Hygiene Superintendent;
- 7.4.18. Safety and warning notices shall be erected in appropriate languages at places where a Group IV hazardous substance or ionizing radiation is kept;
- 7.4.19. A hazard assessment shall be completed for a Group IV hazardous substance prior to commencement of its use on site to identify the nature and magnitude of any radiation hazard from the work should an accident occur;
- 7.4.20. In cases where the assessment infers significant hazards during accidental exposure, a contingency plan shall be devised to reduce the level of significance of the hazard to an acceptable level.
- 7.4.21. The removal of any Group IV hazardous substance for offsite disposal shall be done under the supervision of the Radiation Protection Officer, or in his absence, by the acting Radiation Protection Officer;
- 7.4.22. Manifest and safe disposal certificates shall be obtained and retained for each substance disposed offsite.

7.5. Management of Pesticides and Herbicides

Requirements stipulated in Section 4.1 to 4.3 also apply to pesticides and herbicides management.

7.5.1 Selection of pesticides to be used

- Determine the type of pest or weeds that needs to be controlled, and the specific pesticide to be used for control.
- The pesticide must be registered under Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No.36 of 1947).
- Obtain a Material Safety Data Sheet for the pesticide.

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7.5.2 Operator Safety

- All measures must be taken to ensure operators safety and label recommendations regarding safety are strictly observed. The following gives the toxicity rating according to the label colour band:
 - Green Acute hazard unlikely in normal
 - Blue Slightly hazard – caution
 - Yellow Moderately hazardous – harmful
 - Red Toxic to very toxic

7.5.3 Operators Training


- Basic pesticide awareness
- Safe handling of concentrates and spray mixtures, toxicity of the pesticides, protective clothing and safe disposal
- Application techniques to prevent waste
- Care of equipment – cleaning and disposal of washings.

7.5.4 Personal Protective Equipment (PPE)

- Always read the product label to determine what specific protective equipment is required for handling and application of a product.
- The minimum requirements when handling pesticides are:
 - Adequate eye protection, goggles or a full-face shield.
 - Rubber gloves and boots
 - Aprons to protect working clothes
 - Head protection
 - Respirator or face-mask

7.5.5 Environmental Safety

- Only pesticides with least environmental impact should be used.
- Precaution should be taken to ensure that these products are safely stored, handled, applied and disposed.
- During the application, damage to indigenous or other desirable vegetation product should be observed.
- Care must be taken to prevent contamination of water bodies.


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8. Records

No	Record	Ref.	Resp. Person	Storage	Retention Period	Disposition
1	Incident reporting		ALL	Isometrix	Life of mine	N/A
2	Hazardous Chemical Substances Procurement Control Form	Procurement Section	File	Life of Mine	Shred
3	Hazardous Chemical Substances Register		Supervisors	Green File	5 years	Shred
4	Checklist – Dangerous Goods Off-loading Compliance					

9. Appendix

A - Data to be included on Material Safety Data Sheets (MSDS)

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APPENDIX A

Data to be included on Material Safety Data Sheets (MSDS)

1. Product and Company Identification
2. Composition/information on ingredients
3. Hazards identification
4. First aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information