

E5 - Hazardous materials and contamination control

Scope

This standard is applicable to all Rio Tinto business units and managed operations, including admin/corporate offices and research facilities located off site, from exploration/development and acquisition through to closure and post closure. It covers the management of bulk materials to prevent spillage and environmental contamination, secure storage and transport, contamination investigations, site remediation and emergency response. Where the business or operation is also responsible for ancillary activities (eg power generation) or off-site storage or transport (rail, truck and ship), those activities are also under the scope of this standard. Note that the need for purchase controls, Material safety data sheets (MSDS) and environmental risk assessment are now included in Occupational health standard B4, Hazardous substances (OH-B4).

Intent: The intent of this standard is to prevent spillage and environmental contamination from handling, storage and processing of materials. Control measures must be commensurate with risks to the environment, and ensure that environmental impacts due to spills or other releases are minimised. For those cases where site contamination has occurred, the intent of the standard is to ensure that contamination is properly characterised, managed and remediated where necessary.

Other relevant documents:

- HSEQ management system (or standard E1 EMS for non ABS operations)
- Occupational health standard B4 (Hazardous substances)
- Non-Mineral waste management standard
- Water use and quality control standard
- Land use stewardship standard
- Mineral waste management standard
- Product stewardship guidance note
- Hazardous materials and contamination control guidance note

Programme design

1 Planning

- 1.1 Deleted (requirements incorporated into OH-B4 clause 2.2).
- 1.2 Identify and assess the environmental contamination risks and implement spill prevention controls associated with the transport, storage, use, transfer and disposal of hazardous materials, including failures of secondary containment structures.
- 1.3 Develop internal criteria for assessment of site contamination when government regulations are absent or incomplete. The criteria must be approved by the managing director (MD) and

be in line with internationally accepted regulations, guidelines, definitions and methodologies.

- 1.4 Deleted.
- 1.5 Develop and maintain a contaminated site register, with geographical references, for land currently or previously owned, leased and/or managed (legacy sites). Identify existing contamination and assess its environmental impact. The register must include known contamination for sites previously owned or leased regardless of whether remediation liabilities are retained. Ensure that registers are developed as part of the due diligence process for acquisitions. Key components of the contaminated site register for each site must include:
- a) coordinates;
 - b) description of the wastes and/or potential contaminants of concern and impacted media (soils, sediments, groundwater, surface water);
 - c) estimated mass, volume and geometry of the contamination (surface area, thickness, buried depth);
 - d) summary of the site history;
 - e) exposure risks and related land use and access restrictions if any; and

f) required remedial or administrative actions if any.

1.6 Deleted.

2 Implementation and operation

2.1 Ensure that employees and contractors involved with hazardous materials handling or remediation of contamination are fully aware of the associated environmental hazards and risks and are appropriately trained in routine activities and emergency actions.

2.2 Ensure that hazardous materials, including those brought by contractors, do not adversely impact the environment, can not be accessed by unauthorised personnel and, based on risk, can not come into contact with birds and other animals.

2.3 Deleted

2.4 Maintain effective containment barriers for preventing spills of hazardous material from reaching the environment. All tanks (including flow through process tanks) and drum storages containing hazardous material must have properly designed secondary containment:

a) containment drainage valves must remain closed and locked with the exception of rainwater draining events. Appropriate

- signage must be provided, indicating correct valve position and requirement for locks;
- b) containment systems must be free from product spillage and other materials; rainwater or snow must be removed to ensure adequate capacity is maintained; and
- c) measures must be in place to ensure spills from secondary containment and portable containers can not enter sewers or any body of water or soil.
- 2.5 Storage tanks and pipelines containing or transporting hazardous materials must be above ground. Any exception must be justified and authorised by the managing director. Any such exception must be based on a risk assessment and provision of additional controls including secondary containment (such as double-wall design), inventory monitoring and reconciliation, and other leak detection or environmental monitoring systems.
- 2.6 Dispensing hazardous materials must have effective spill prevention and leak/spill detection measures in place. Construction materials must be compatible with the fluid contained in the system.
- 2.7 Implement selection criteria and control procedures for third party transporters, purchasers and other recipients of

hazardous materials and implement follow-up procedures for any hazardous material sent off the premises.

- 2.8 Maintain and test emergency response procedures, associated equipment and personnel for responding to potential hazardous material releases.
- 2.9 Develop, document and implement a remediation strategy for those existing contaminated sites where site investigation has shown there is an unacceptable environmental impact to current land uses, ecological function, surface or ground water resources, or where off-site impacts are occurring or are likely to occur.

3 Performance measurement

- 3.1 Implement routine inspections, monitoring procedures for leaks and integrity testing for deterioration of storage tanks and pipelines with a frequency and methodology commensurate with the associated environmental hazards and local legislation.
- 3.2 Maintain spill and leakage detection equipment and emergency response plans that are adequate for the risk posed by the hazardous material to the environment and linked to the appropriate operational control and emergency response unit.
- 3.3 Deleted

4 Revision history

Version no.	Effective date	Prepared by	Authorised by	
1	June 2005	Adelino Taboada	ExCo	
Version no.	Revision date	Revised by	Authorised by	Reason for change
2	December 2008	Adrian van Tonder	Bruce Kelley	Incorporation of suggested changes from operations and alignment with HSEQ management system.