

## Standard

# E15 - Hazardous materials and non-mineral waste management

November 2017

Group <b>Standard</b>	Title: <b>Hazardous materials and non-mineral waste management</b>		Document number: <b>HSEC-B-06</b>	
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Owner: <b>Group Executive Health, Safety &amp; Environment</b>		Approver: <b>Executive Committee</b>	Target audience: <b>All Rio Tinto staff and each Rio Tinto Group business and function</b>	
Direct linkages to other relevant policies, standards, procedures or guidance notes: <b>Rio Tinto management system standard, E15 - Hazardous materials and non-mineral waste management guidance note</b>				
Document purpose: <b>To support the implementation of the Group HSE policy. This standard defines the minimum acceptable requirements for behaviours and/or conditions in respect of managing hazardous materials and non-mineral wastes, which if not met, could materially impact the Group.</b>				

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### Intent and Scope

Business units and operations are accountable to manage impacts associated with our operations to ensure risk is managed in accordance with regulatory commitments, Rio Tinto values as outlined in *The way we work*, and the HSE policy. Rio Tinto is committed to protecting the environmental value of the regions where we operate and maintaining good stewardship for the long term. The intent of the standard and the requirements herein, is to prevent, or otherwise minimise, mitigate and remediate the effects that our business' operations have on communities and environments.

This standard is applicable to all Rio Tinto business units and managed operations across all phases of their life cycle from exploration through post-closure. It covers the import, storage, use, and ultimate disposal of hydrocarbons, reagents, process fluids, non-mineral wastes and other materials that could pose environmental risks because of their physical and chemical properties. Environmental performance standard E13: Chemically Reactive Mineral Waste addresses mineral wastes generated as a direct result of mining, beneficiation and some mineral processing.

### Performance requirements

- 1.1 Protect the environment, and/or community health and livelihoods by preventing unauthorised releases to surface water, ground water and soil from hazardous materials and non-mineral wastes.
- 1.2 Minimise the liabilities and environmental impacts of non-mineral waste disposal by practicing waste avoidance and reduction at source, promoting re-use and recycling, performing upstream waste segregation, and ensuring safe and secure temporary storage and handling before permanent re-use, recycling or disposal.
- 1.3 Remediate or manage long-term contaminated sites where investigation has demonstrated an impact or risk to the environment, and/or community health and livelihoods.

### Control requirements

Requirements in this standard apply in addition to any requirements defined in the *Rio Tinto Management System* standard, those of the *Community and social performance* standard, and the other environmental standards. Materiality thresholds, described in guidance to this standard, determine the level of effort required to meet subsequent clauses herein.

### Hazard identification and risk management

- 2.1 Develop internal performance criteria when government regulations are absent, incomplete, or do not ensure protection of the environment, and/or community health and livelihoods. Any performance criteria more stringent than government regulations must have formal approval from the business' Managing Director.
- 2.2 Identify and characterise all hazardous materials and non-mineral wastes imported, generated, exported, stored or disposed on- and off-site.
- 2.3 Maintain an inventory of the locations, volumes and contents of bulk hazardous materials storage facilities, as well as a documented annual and cumulative inventory of all non-mineral waste materials disposed on-site or sent offsite.

- 2.4 Characterise all known or potential soil and water contamination for sites managed by the business or for which the business may have responsibility.
- 2.5 Develop and maintain a register that documents the location, magnitude, characteristics, environmental risks and legal liabilities associated with known or potential contaminated sites.
- 2.6 Assess the impacts and risks posed by potential hazardous material release and use this information to inform the design of containment infrastructure, monitoring and management strategies.
- 2.7 Design and maintain secondary containment that is capable of safely holding the maximum credible release for all tanks, drum and bulk storage areas containing hazardous materials, as well as for high-risk transfer facilities with a significant risk of spills.
- 2.8 Store hazardous materials and/or waste materials in the correct type of labelled container in an appropriate secondary containment area.
- 2.9 Maintain spill response equipment, leak detection systems and teams to ensure hazardous material releases are promptly controlled, contained and remediated.
- 2.10 Construct new storage tanks and pipelines containing or transporting hazardous materials above ground, unless a documented risk assessment demonstrates a lower risk for underground installation.
- 2.11 Incorporate additional controls, such as secondary containment, inventory monitoring and leak detection systems, for any new and existing underground tanks and pipelines. Underground tanks and pipelines must be authorised by the business' Managing Director and approval reviewed at least every five years, or when there is a significant change in operating practices or design.
- 2.12 Dispose non-mineral waste in permanent, engineered, controlled and approved facilities, whether onsite or offsite, that are designed and operated in accordance with local laws and regulations or internal performance criteria.
- 2.13 Design and verify that landfill liners, covers and leachate management systems meet compliance, internal performance criteria and avoid the creation of environmental and/or community health and livelihoods liabilities, consistent with the hazards posed by the contained waste and the sensitivity of the receiving environment.
- 2.14 Evaluate and document potential hazardous materials, contaminated sites and non- mineral waste risks and impacts as part of the technical and financial preparation and evaluation of capital projects. Develop appropriate mitigation strategies for all significant impacts and risks.

### **Management of change**

- 2.15 Evaluate and document any change to mine design, infrastructure and operations that could impact hazardous material inventory, contaminated sites, and non-mineral waste as part of a formal management of change process that prioritises opportunities to avoid and/or reduce waste generation and waste impacts.

### **Monitoring, measuring and reporting**

- 2.16 Perform and document inspections of hazardous material and non-mineral waste storage and disposal areas at a frequency proportionate to the risk of failure.
- 2.17 Conduct integrity testing of storage tanks and pipelines that store or convey hazardous materials at a frequency proportionate to the risk of failure and monitor waste stored in containers to prevent spills or leakage.
- 2.18 Perform verification assessments of contractors who transport or recycle waste materials and facilities used for treatment, storage and disposal to confirm that the wastes are being managed appropriately.