



Chemicals Management

Purpose

To responsibly manage and control *Chemicals*¹ across all *Sakhalin Energy Activities* to:

- Minimize the potential impact of Chemicals on health, safety and the environment;
- Ensure full compliance with applicable legislation;
- Minimize the quantity of Chemical Waste generated;
- Minimize the number of Chemicals used; and
- Maximize chemical accounting and the cost effectiveness of Chemicals used.

Who is this for?

- *Managers*.

What situations are covered?

This document applies to all *Sakhalin Energy Assets, Facilities, Operations, Projects and Activities*, including activities undertaken by any *Contractor* on behalf of the *Company*.

Requirements

Managers are Accountable for requirements 1 to 14 in their own organisation:

1. Manage Chemicals in compliance with requirements of:
 - a. Russian Federation law (overview provided in Chemicals Management Standard²), and
 - b. Lenders and Shareholders as defined in International Requirements for Occupational Health and Hygiene.
2. Only Chemicals approved by the Sakhalin Energy Chemicals Approval Panel (CAP) shall be purchased and used at Sakhalin Energy *Sites*. The CAP considers life cycle *Risk* (including waste management) and ensures a consistent approach allowing standardisation and rationalization.
3. Only Chemicals fully compliant with Russian Federation legal requirements shall be approved for use at Sakhalin Energy *Sites*, including:
 - a. all Chemicals shall have current Sanitary Certificates or Information Card of Potentially Hazard Chemical and biological Substance, GOST compliance certificate (if necessary) and MSDS in Russian and English;
 - b. compliance with the overarching "Water Code of the Russian Federation" (16-11-1995, N167-FZ) and Ecological Expert Examination (15.04.1998-N).
4. The CAP includes in its deliberation product composition and prevailing international standards, for example, UK (taint warning), OSPAR/OSPARCOM, and Montréal Protocol (on Substances that Deplete the Ozone Layer). For land-based activities, Sakhalin Energy actions reflect requirements as described in EU directive 80/68/EC – "Protection of Groundwater against pollution caused by dangerous substances".
5. Where practicable, Sakhalin Energy shall preferentially select lowest toxicity alternatives, and Chemicals that minimize residual impact if released into the environment (e.g. biodegradable, non-chlorinated, etc.) Where practicable and economic to do so, preference shall be given to suppliers who offer return and recycle options.
6. A full Material Safety Data Sheet (MSDS), in Russian and English shall be made available for all Chemicals and oil products used at the site. An MSDS in Russian and English shall be available on-site for all potentially hazardous materials used in Sakhalin Energy operations. An MSDS shall provide,

¹ Italicized terms in this document are included in the Sakhalin Energy HSE Glossary.

² Underlined items in this document refer to Sakhalin Energy Controlled Documents.

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amongst other things, guidance on safe product handling and disposal and shall, unless local legislation or codes of practice dictate otherwise be in ISO11014 format, and be based on EU, US or comparable norms.

- a. Chemicals shall be appropriately labelled and shall have accompanying instruction sheets for usage. In such regard, the Company shall comply with EU Council Directive 67/548/EEC (Classification, Packaging and Labelling of Dangerous Substances)
7. The selection, procurement, transport, use, storage and disposal of Chemicals shall be managed in accordance with the Chemical Management System Manual based on UKOOA principles but also reflect the requirements of EC Directive 94/55/EC (ADR Framework Directive, as amended) and in compliance with Russian legislation.
 - a. Chemical handling and storage shall be carried out in accordance with detailed Chemicals Management Procedures that set out safe methods of working for all personnel handling chemicals. Only appropriate trained staff shall be permitted to handle chemicals.
 - b. Chemicals management procedures direct the employee to consult the product MSDS before working with the product and clearly states that the Personnel Protective Equipment stipulated in the MSDS is the minimum to which no exceptions are permissible. Refer to International Requirements for Occupational Health and Hygiene for more detail.
 - c. The Guidelines and the Chemicals Management Procedures shall cover training in chemical handling and storage, documentation of inventory and inventory reconciliation, placarding, security arrangements and controls for storage areas, responsible parties.
8. Chemical transport (including by road, air and ship) shall be carried out in accordance with the Marine Standard and Land Transport Standard including Guidelines for the Safe Packing and Handling of Cargo from Offshore Locations. In summary:
 - a. By Road – Vehicles shall be suitable for safe operation. Vehicle or the goods shall be clearly marked with the appropriate hazard warning panels or signs, with information regarding the hazardous nature of the materials and precautions and remedial measures to be taken in the event of an accident. Emergency telephone numbers should be clearly marked. Drivers shall be adequately trained and instructed in the hazards of the load, and of any emergency action that they may need to take in the event of an emergency, including actions listed in the MSDS and their duties under law.
 - b. By Air – A dangerous goods declaration shall be completed for hazardous products shipped by air. Relevant IATA regulations apply. The Aviation Operating Manual clearly gives direction as to the marking, packaging and handling of hazardous airfreight to and from offshore locations together with examples of product types that must not be carried by air.
 - c. By Sea – The principal Safety Guidelines for Packaging for sea transport are listed in the Guidelines for Packing Transport Units (Packing Guidelines) which form part of the International Maritime Dangerous Goods Code (IMDG). The Supply Base Operator shall provide the vessel with a copy of the vessel-loading manifest and, if applicable, a Dangerous Goods Manifest for each installation to be visited, in sufficient time to allow proper stowage of the cargo for the route envisaged.
9. No hazardous Chemical, fuel or lubricating oil shall be stored within 30 m of a watercourse. [EIA Volume 4, Chapter 3, section 3.6.1]
10. Any Chemical that will be discharged must have a Maximum Permissible Concentration (MPC) relevant to the receiving water body and must be listed in the facility's water use licence. Where products are subject to discharge then the concentration and rate of discharge shall be within limits set by the prevailing permit or licence. Metering serves to ensure compliance with Maximum Permissible Concentration (MPC) values. Discharges shall also comply with other adopted standards (refer International Requirements for Occupational Health and Hygiene and International Requirements for Water Use and Aqueous Discharges). The CAP shall undertake a crosscheck against international protocols such as OSPAR (including the Harmonised Mandatory Control System for Use and Reduction of the Discharge of Offshore Chemicals).
11. Over treatment with the use of chemicals is undesirable due to their relative ineffectiveness e.g. demulsifiers become emulsifiers, oxygen scavengers encourage the growth of sulphate reducing bacteria etc. Sakhalin Energy has in place a metering and reporting system to ensure injection targets are met but not exceeded (within limits).
12. The disposal of Waste chemicals shall be undertaken in accordance with the Waste Management

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Standard.

13. Provide and maintain training programmes in Chemical Awareness commensurate with the level of competency required.
14. All assets shall establish Chemical spill emergency response procedures that address any Chemicals that they use, detailing actions to be taken in the event of a spill to ensure rapid and effective response. Appropriate clean up equipment shall be located on site at each Chemical and fuel storage facility and personnel trained in spill response and the use of designated equipment. MSDS at each facility provide detail on chemical spillage and appropriate responses. [EIA V4: 3.6.1, 3.12.3]; V5: 3.5.3]
15. Good site practice shall be employed to minimise the risk of accidental spills occurring. Appropriate use of bunded areas or double skinned tanks (e.g. on all platforms there shall be injection skids within bunded area with drains routed according to product risk).
16. Sakhalin Energy shall adhere to the Shell Group Standard on Animal Testing where applicable.

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