Chemical Management Policy in Ny-Ålesund

1. Purpose

Due to the remote Arctic location of Ny-Ålesund, limited emergency response capacity, challenging logistics and the high environmental sensitivity of the area, hazardous chemicals require additional control measures beyond standard laboratory practice.

The purpose of this Policy is to establish requirements for the safe procurement, handling, storage, transport and disposal of hazardous chemicals in Ny-Ålesund in order to protect personnel, the Arctic environment and research infrastructure, and ensure compliance with applicable Norwegian legislations.

2. Scope

This policy applies to all researchers, students, contractors, visitors and other personnel who procure, transport, use, store or dispose of hazardous chemicals or radioactive isotopes within facilities owned or managed by Kings Bay AS.

3. Responsibilities

Users

- Performing documented chemical risk assessments
- Safe handling of chemicals
- Correct storage
- Waste segregation
- Incidents reporting

Kings Bay Laboratories

- Procurement coordination
- Chemical inventory and substance index management for Kings Bay
- Hazardous waste coordination
- Storage facilities
- Guidance and support

4. Procurement

4.1. Ordering

All chemicals and radioactive isotopes intended for use in Ny-Ålesund shall be procured exclusively through Kings Bay Laboratories, unless otherwise agreed in writing.

Orders shall be placed through the Research in Svalbard Portal (RiS) and be submitted using the official Kings Bay Laboratories chemical order template form.

Before requesting the procurement of a hazardous chemical, users shall evaluate the need for the chemical, purchase only the quantity required, and consider whether a less hazardous substitute is available. Users shall review the relevant Safety Data Sheet (SDS) to ensure familiarity with the requirements for safe use, handling, storage, spill management, and disposal before the chemical is introduced.

By submitting a chemical request, the user confirms that:

- the chemical is necessary for the planned work;

- a documented chemical risk assessment has been completed
- substitution has been considered;
- the user has received appropriate training for handling the chemical;
- appropriate PPE is present and will be used;
- the associated costs may be charged to the project.

4.2. Chemical Risk Assessment

Before hazardous chemicals are procured or used in Ny-Ålesund, the responsible user shall prepare and document a chemical risk assessment.

The chemical risk assessment shall be specific to the planned work and the local conditions in Ny-Ålesund. Consideration shall be given to the limited emergency response capacity, restricted medical resources, environmental sensitivity, and available technical control measures.

The chemical risk assessment shall address:

a. the hazardous properties of the chemicals,
b. the supplier information on risks to health, the environment, and safety,
c. the conditions at the workplace where the chemicals will be used,
d. the quantity and method of use of the chemical(s),
e. whether the work processes and work equipment are appropriate,
f. the number of users expected to be exposed,
g. the type, level, duration, frequency, and routes of exposure,
h. the effect of implemented and planned preventive measures,

The chemical risk assessment shall be submitted to and approved by Kings Bay Laboratories and the host institution before arrival in Ny-Ålesund.

Users shall comply with the control measures identified in the chemical risk assessment.

4.3. Substitution Principle

In accordance with the Norwegian Product Control Act, users shall assess whether less hazardous alternatives are reasonably available before hazardous chemicals are procured.

When evaluating alternatives, consideration shall be given to hazard classification, exposure potential, physical form, application method, and technical performance. Where substitution is not reasonably practicable, the assessment and the justification for retaining the existing substance or process should be documented.

4.4. Conditions for Approval

Kings Bay reserves the right to refuse the procurement or use of hazardous chemicals where the associated risks cannot be adequately controlled under local conditions or where compliance with this Policy or applicable legislation cannot be demonstrated.

Kings Bay may refuse approval where:

- A Norwegian SDS is not available.
- The chemical presents an unacceptable risk to human health, the environment or the available emergency preparedness.
- Suitable and compliant storage facilities are unavailable.
- Adequate response measures cannot be ensured in the event of fire.
- The chemical is prohibited under Norwegian law, and the user has not obtained an exemption from the Norwegian Environment Agency.

- A less hazardous substitute exists, in accordance with the Norwegian substitution principle and no documented assessment exist.

5. Use of Hazardous Chemicals

All personnel handling or who may be exposed to hazardous chemicals shall have access to relevant safety information and be familiar with applicable procedures before commencing work.

Users shall have access to:

- the relevant SDS and documented chemical risk assessments;
- information on chemical hazards and the required control measures;
- appropriate training in safe handling, storage and disposal of hazardous chemical(s); and
- emergency procedures, including spill response and first aid measures.

Training shall be proportionate to the level of risk and appropriate for the tasks being performed.

Users shall comply with the instructions and control measures specified in the SDS and the chemical risk assessment.

Users shall wear the required personal protective equipment (PPE) and use approved engineering controls, including certified fume hoods, where required by the Risk Assessment or SDS.

5.1. Explosives Precursors

Explosives precursors shall be managed in accordance with Regulation (EU) 2019/1148 on the marketing and use of explosives precursors, including requirements related to restricted substances, reporting of suspicious transactions, and control of access to regulated chemicals.

For the following restricted explosives precursors, users must provide additional documentation:

- Nitric Acid ≥ 3% (w/w)
- Hydrogen Peroxide ≥ 12% (w/w)
- Sulphuric Acid ≥ 15% (w/w)
- Nitromethane ≥ 16% (w/w)
- Ammonium Nitrate ≥ 16% (w/w) nitrogen (relative to ammonium nitrate)
- Potassium Chlorate ≥ 40% (w/w)
- Potassium Perchlorate ≥ 40% (w/w)
- Sodium Chlorate ≥ 40% (w/w)
- Sodium Perchlorate ≥ 40% (w/w)

6. Storage of Chemicals

Hazardous chemicals shall be stored in accordance with the manufacturer's recommendations, the SDS, and applicable Norwegian legislation.

Only the quantities necessary for ongoing work shall be kept in laboratory work areas. Surplus chemicals shall be stored in designated chemical storage facilities.

Chemicals shall be segregated according to compatibility, and incompatible substances shall not be stored together. Flammable liquids, corrosive chemicals and other hazardous substances shall be stored in approved safety cabinets appropriate for the hazard class.

Secondary containment shall be used where there is a risk of leakage causing environmental contamination.

Toxic chemicals shall be kept in locked storage with restricted access.

Chemicals may not be stored in non-original secondary containers/packaging unless a Norwegian SDS exists, the container is suitable for the substance, and proper Norwegian-language labelling (chemical name, hazard pictograms, hazard statements) in accordance with the Norwegian CLP Regulation is applied.

Compressed gas cylinders shall not be stored inside laboratory work areas or housing unless specifically approved.

Compressed gas cylinders shall be stored only in designated gas storage areas.

7. Documentation

7.1. Safety Data Sheets and Requirement for Substance Index

All hazardous chemicals in Ny-Ålesund shall have a valid and updated Norwegian SDS available for users.

Kings Bay AS uses EcoOnline Chemical Manager for its substance index of hazardous chemicals (SDS inventory).

All independent companies must have their own substance index of hazardous chemicals (SDS inventory). Kings Bay AS requires that the substance index is available for all in Ny-Ålesund.

7.2. Chemical Inventory

Users must have an up-to-date chemical inventory, and upon request by Kings Bay Laboratories provide documentation of the inventory.

Host institutes and registered research projects can likewise request insights in local Kings Bay chemical inventory.

7.3. Record Retention

Documentation relating to hazardous chemicals shall be retained for a minimum of ten (10) years. This includes SDS, information sheets, chemical risk assessments, and other records demonstrating which chemicals have been used and the preventive measures that have been implemented.

8. Hazardous Chemical Waste Management

Users shall not dispose of hazardous waste independently.

Hazardous chemical waste shall be managed in accordance with applicable international transport regulations, Norwegian legislation, and Kings Bay AS procedures. Disposal of hazardous waste is governed by the Regulations Relating to Pollution and Waste in Svalbard, while the transport of dangerous goods shall comply with the applicable provisions of the IMDG Code, ADR, and IATA Dangerous Goods Regulations.

Hazardous chemicals, chemical residues and contaminated materials shall never be discharged into sinks, drains, toilets, or released into the environment.

All hazardous waste generated in Ny-Ålesund shall be managed through Kings Bay AS. Certified personnel shall coordinate the packaging, documentation, transport and shipment of hazardous waste to an authorised waste treatment facility on the Norwegian mainland.

9. Incident Reporting

All spills, unintended releases, near misses and accidents involving hazardous chemicals shall be reported immediately to Kings Bay Laboratories.

Appropriate emergency response measures shall be initiated without delay.

10. Applicable Legislation

1. Regulations concerning the Performance of Work (*Forskrift om utførelse av arbeid*)
2. Lov om kontroll med produkter for forbrukertjenester (*Produktkontrolloven*) (Norwegian only)
3. Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures (*Forskrift om klassifisering, merking og emballering av stoffer og stoffblandinger (CLP-forskriften*))
4. Regulation (EU) 2019/1148 of the European Parliament and of the Council on the marketing and use of explosives precursors (Explosives Precursors Regulation)
5. Regulation (EC) No. 1907/2006 (REACH) implemented in Norway through the Norwegian REACH Regulation (*Forskrift om registrering, vurdering, godkjenning og begrensning av kjemikalier*).
6. Regulations Relating to Pollution and Waste in Svalbard (Forskrift om forurensning og avfall på Svalbard)
7. Act relating to the Protection of the Environment in Svalbard (Svalbardmiljøloven)