

## Checklist for Chemical safety in laboratories

Tool for principal investigators (PIs), lab managers and other responsible personnel

### Introduction

This checklist is a tool for principal investigators (PIs), lab managers, and other responsible personnel to ensure the safe handling of hazardous chemicals and compliance with KI rules, as well as Swedish and European laws and regulations. Detailed information about specific tasks is available on KI's Staff portal under *Laboratory Safety* and *Chemical Safety*.

If you need help or have questions about the information below, please refer to the contact information provided at the end of the document.

### General

- Have you and your group members taken the mandatory KI's Laboratory safety introduction in Canvas?
- Do you introduce new group members and students to KI's laboratory safety rules and to the routines in your lab?
- Do you frequently visit the Laboratory safety pages on KI's Staff portal?
- Do you have emergency procedures in place for spills, accidents, or fires?
- Do you know the name of your department's chemicals representative (kemikalieombud)?
- Do you know the names of your department's supervisor for flammable goods and flammable goods monitor (föreståndare och kontrollant brandfarlig vara)?
- Do you have at least one chemical inventory taker (kemikalieinventerare) in your group who is responsible for the KLARA register?
- Are all chemicals (including your own mixtures) labelled with their contents (substances and concentrations) and hazard pictograms (CLP)?
- Do you hold a yearly cleaning day to clean your lab, storage areas, and dispose of old chemicals?

- Do you have pregnant or breastfeeding persons at your workplace (special requirements for individual risk assessment)?
- Do you have spark-free (EX-classified) electrical equipment in areas where there is a risk of forming an explosive atmosphere (where flammables are handled on a normal lab bench)?
- Do you ensure that incidents are reported to KI's incident reporting system?

## **KLARA product database**

- Are all your chemicals (including gases) registered in KLARA?
- Is the latest SDS from the supplier for your chemicals attached in KLARA?
- Do all group members know how to find Safety Data Sheets (SDS) in KLARA for the chemicals used in the lab?
- Did your group perform this year's chemical inventory in KLARA?
- Have you taken out relevant chemical lists from KLARA? If necessary, have you met all requirements, such as medical check-ups, training, and CMR investigations?

## **Risk assessment**

- Have you and your group members taken a course in risk assessment?
- Have you performed risk assessments for all methods that may involve chemical risks?
- Do you maintain the risk assessments in relation to the handling?
- Do you have a routine for reviewing risk assessments?
- Have you informed everyone working in the same lab about the risks (e.g., cleaning staff, animal facility staff, core facility staff)?

## **CMR chemicals and cytostatic drugs**

- Have you performed CMR investigations (at the method level) to evaluate if you can use a less hazardous product or method?
- Have you conducted risk assessments for handling CMR and cytostatic drugs?
- Do you have handling instructions in place?
- Do you have emergency procedures established?
- Do you have a designated lab for handling CMR/cytostatic drugs?
- If necessary, have you notified KI's CMR register in cases where individuals have been exposed to CMR chemicals?
- Have you ensured that no pregnant or breastfeeding persons are handling CMR chemicals and cytostatic drugs?

## Permits

- Do you have chemical products (substances, mixtures or kit) that consists of:
  - Group A (>0,1%) or Group B (>1%) chemicals?
  - Mercury (>0,1%)?

## Storage

- Do you store chemicals with different properties (acids, bases, flammables, poisons, etc.) in separate storage areas?
- Are corrosive chemicals stored below waist level?
- Are all storage areas connected to external ventilation?
- Are all storage areas labeled with the correct hazard pictogram?
- Is the latest chemical list (from KLARA) posted in each storage area?

## Flammables

- Do you store all flammable chemicals in a ventilated, fireproof cabinet or room?
- Do you return all flammable chemicals to the storage after use?
- If storing flammable chemicals in a cold environment, do you use a spark-free (EX-classified) refrigerator?
- Do you handle flammable chemicals in fume hoods or suction tables?

## Personal protection

- Do you handle hazardous chemicals in ventilated workplaces, such as fume hoods, suction table or spot extractors?
- Are the ventilated workplaces located in a corner of the lab?
- Do you use personal protective equipment (gloves, mask, goggles, etc.) as stated in section 8 of the product's SDS?
- Is everyone in the lab introduced to good glove practices (to minimize contamination)?
- Is everyone in the lab wearing a lab coat (fireproof)?
- Does everyone remove their lab coat before entering the office, lunchroom, or other common spaces?

## Chemical waste

- Do you follow KI rules for management of laboratory waste (fractions, labelling, storage, and packaging)?
- Do you follow KI rules for chemical discharge to drains?

- Do you store chemical waste correctly (following the same rules as for chemicals in general)?

## Internal transports

- Have you risk-assessed transports of hazardous chemicals?
- Do you transport hazardous chemicals in a safe manner (basket, box, absorbing material)?
- For transportation of dangerous goods between campus Solna and campus Huddinge, do you use the "Scientific Sample Shuttle"?

## Liquid nitrogen and other gases

- Do you handle liquid nitrogen according to KI's instructions?
- Have you performed a risk assessment for the specific conditions in your lab/method?
- Do you store liquid nitrogen in a safe manner (e.g., ventilation, alarm)?
- Are gas cylinders stored secured and upright?
- Do you have routines for inspections of gas cylinders and connections?
- Are permanent gas tubes labelled according to CLP?
- Are flammable gases stored in fireproof cabinets?

## For questions, please contact:

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