UPPSALA UNIVERSITET

UFV 2019/1705

# Procedure for the Storage of Chemical Products

## Uppsala University

Approved by Property Director Peter Elenfalk 2019-09-30

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# Storage of chemical products

## Responsibility

Everyone at Uppsala University who comes into contact with chemical products in their work or studies must adhere to this procedure and applicable legislation regarding the storage of chemical products.

The Head of Department/equivalent is, according to the Head of Department delegation, ultimately responsible for ensuring that chemical products are stored in accordance with applicable legislation and guidelines issued by Uppsala University. To assist the Head of Department/equivalent is a chemicals representative, who is tasked with ensuring that guidelines and procedures regarding the handling of chemicals are implemented in their department/equivalent.

Uppsala University has a permit to use flammable products. The holder of the permit is the Vice-Chancellor, who appointed the relevant Head of Department/equivalent to be the Vice-Chancellor's representative in their departments/equivalent.

The Unit for Environment and Physical Work Environment is tasked with providing information on applicable legislation concerning chemicals, formulating procedures and providing advice and assistance to relevant individuals and divisions within the University. This procedure refer to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (the CLP Regulation). For chemicals that were classified and labelled according to older legislation (in which the orange hazard symbols were used), information is provided in fact sheets linked from the Employee Portal.

## General instructions

There are very many chemical products with very different properties. To ensure that the products are stored as safely as possible, it is important that everyone handling chemical products has sufficient knowledge of the potential risks. Storage planning must take into account:

- the properties of the relevant chemical product
- amounts to be stored
- surrounding activities

From a health and safety standpoint, it is advisable to minimize the amount of chemical products to avoid long storage periods.

The storage of flammable products requires permits at most properties of Uppsala University and may therefore only be done in accordance with the terms and conditions of the permit; see 'Flammable products' below.

A and B substances requiring permits must be stored in accordance with the stipulations of the permit documentation and in accordance with the terms and conditions of each department's/equivalent's permit.

[1] Employee Portal: Kemikaliehantering/Brandfarlig vara (Chemical handling/Flammable product)

# Packaging

Packaging must be designed for the storage of that particular chemical product. Chemical products must be stored in closed packaging to prevent air contamination. In most cases, the chemical product's original packaging should be used. A package that is only intended to be used to transport chemical products must not be used for storage. Keep in mind that plastic packaging becomes porous and can start to leak as it ages. Packages must be clean on the outside to reduce the risk of injury through skin contact. To minimize health and environmental risks, unsatisfactory packaging must always be discarded.

The chemical products must be labelled in accordance with applicable legislation. For more information on labelling, see the University's procedure for labelling of chemical products (UFV 2019/1706). Procedure for the labelling of chemicals can be found under the heading "Kemikaliehantering" (Handling of Chemicals) in the Employee Portal.

# Chemicals cabinet and chemicals storage room

Chemical products must be stored in the chemicals cabinet or in the chemicals storage room. The cabinet and the storage room must be intended for the storage of chemical products and designed to prevent health and environmental risks. The ventilation in these spaces must be adapted for the storage of chemical products and spills to the sewer lines must be prevented by bunding (constructing a retaining wall) around the chemicals cabinet and by ensuring there are no open floor drains in the chemicals storage room.

Only authorized personnel may access the chemicals cabinet and chemicals storage room.

Chemical products must not be stored in fume hoods. Only the chemical products needed for work at that moment should be out in the laboratory.

Equipment for decontamination and spills must be available and adapted to the relevant chemical products. Place the equipment in an easily accessible location and in close proximity to the storage location.

## Labelling and signposting

The chemicals cabinet and chemicals storage room must be signed/labelled so that it is clear that the space is intended for the storage of chemical products. The labels and signs must indicate what type of chemical products are stored in the storage space. For more information on labelling, see the University's procedure for labelling of chemical products on the University's website.

[2] Employee Portal: Kemikaliehantering/Brandfarlig vara (Chemical handling/Flammable product)

# Flammable products

All handling, including storage, of flammable products requires permits at most properties of Uppsala University. The flammable products that the University has permits for are flammable gas, flammable liquids and oxidizing substances. The flammable liquids are divided into three classes with respect to flash point and are labelled in accordance with Table 1 (in accordance with the CLP Regulation, Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures). According to MSBFS 2010: 4, liquids with flash point 60-100 ° C are also considered flammable. They are not labelled with the CLP pictogram for flammable, but should be counted among the substances where permits are required and should be handled as flammable products.

*Table 1. Classification and labelling of flammable liquids under the new CLP regulations*

| Category | Flash point range | Signal word | Hazard statement |
|---|---|---|---|
| 1 | < 23°C and initial boiling point ≤ 35°C | Danger | Extremely flammable liquid and vapour |
| 2 | < 23°C and initial boiling point > 35°C | Danger | Highly flammable liquid and vapour |
| 3 | ≥ 23°C and ≤ 60°C | Warning | Flammable liquid and vapour |
| **All products are labelled as shown below** | | | |

Requirements, advice and recommendations on the storage of flammable products are available in the University's 'Procedure for the Handling of Flammable Products' (UFV 2019/1840) and in the Swedish Civil Contingency Agency's (MSB) information on handling flammable products in the laboratory. See the University's website[1].

[3] Employee Portal: Kemikaliehantering/Brandfarlig vara (Chemical handling/Flammable product)

## Gas cylinders

Gas cylinders with flammable gases must be stored in accordance with the instructions in 'Procedure for the Handling of Flammable Products' (UFV 2019/1840). Other gas cylinders must be stored in a safe and appropriate manner. For example, the space must be well ventilated and the cylinders must be anchored with chains that can be unhooked. Warning signs for gas cylinders must be posted near the door to the room or other area in which cylinders are stored. Warning signs must also be posted near the storage location of the cylinders if the cylinders are not clearly visible.


## Products hazardous to health and the environment

Products hazardous to health and the environment must be stored in a manner that prevents health or environmental risks. Hazardous chemical products must be stored so that they are inaccessible to small children and completely separated from products that are intended to be ingested.

Particularly hazardous products must be stored in a manner that ensures unauthorized persons cannot access them and they must be labelled in accordance with Figure 1.

*Figure 1. Labelling of particularly hazardous products in accordance with CLP.*

**Particularly hazardous products in accordance with CLP.**

Danger

Acute toxicity
Category 1, 2, 3

Danger

CMR
Category 1A or 1B

Danger

Specific target organ toxicity – single or repeated exposure
Category 1

Danger

Skin corrosion

Category 1

[4] Employee Portal: Kemikaliehantering/Brandfarlig vara (Chemical handling/Flammable product)

Volatile solvents which when inhaled may cause intoxication must be stored in a manner that prevents or mitigates this type of use.

Peroxide-forming chemicals such as ethers must be stored in a dark and cool place in tightly sealed packaging to reduce the risks of explosion and fire.

### Separate storage

Substances and preparations that together can give rise to increased risks must be stored separately. It is, for example, inadvisable to store acidic and alkaline chemicals together. Strong oxidizing substances must be stored separately from oxidizable substances. Cyanides and acids must not be stored together due to the risk of the formation of toxic and flammable hydrogen cyanide gas.

The supplier's safety data sheet and the chemical registration system KLARA may offer guidance on separate storage needs.

Flammable products may not be stored together with chemical products that could aggravate injuries in the event of a fire. See the University's instructions 'Procedure for the Handling of Flammable Products' (UFV 2019/1840) and MSB's information sheet on the handling of flammable products in the laboratory (linked from the University's website)[2].

## Local procedures

This procedure is based on legislation and established practice for the storage of chemical products. In addition to these, local procedures have been established in each department/equivalent and/or campus management and customized to the activities and premises. Local procedures must be adhered to along with this procedure.

## Legislation

(AFS 2011:19) Chemical Hazards in the Working Environment

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

MSBFS 2010:4 MSB's provision on which goods are to be regarded as flammable or explosive goods

(SFS 2008:245) Chemical Products and Biotechnical Organisms Ordinance

(SFS 1977:994) Ordinance on the sale and storage of certain volatile solvents

(SÄIFS 1998:7) MSB's regulations on flammable gas in cylinders

AFS 2017:3 The usage and control of pressurized equipment

(KIFS 2017:7 Provision on Chemical Products and Biotechnical Organisms

[2] Employee Portal: Kemikaliehantering/Brandfarlig vara (Chemical handling/Flammable product)