



## WORK INSTRUCTION FOR THE USE OF EXPLOSION / FIRE HAZARDOUS CHEMICALS AND GASES

Theme:  
Work instruction  
Revised date:  
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Page:  
1 av 1

### **PURCHASE AND STORAGE OF EXPLOSION HAZARDOUS CHEMICALS**

Shall comply with relevant legislation and policies. Examples of such chemicals are:

**Picric acid** (C<sub>6</sub>H<sub>3</sub>N<sub>3</sub>O<sub>7</sub>) in crystalline form.

- Picric acid in water solution (50%) must be stored well sealed so that no evaporation occurs.

**Perchloric acid (HClO<sub>4</sub>)** concentrated (> 60%).

- Storage should be minimized and not exceed 1 kg pr. laboratory. Perchloric acid should not be stored together with reducing and organic material (eg. Ammonium, wood, paper, acetic anhydride, bismuth, alcohols, nitrous acid and acetic acid). Shall be kept tightly closed.

### **PARTICULAR ATTENTION MUST BE TAKEN WHEN STORING.**

#### **Flammable liquids**

- Storage of flammable liquids category 1 and 2 shall be minimized and risk assessment must be available.
- Must be stored tightly closed in ventilated cabinets or approved fireproof cabinets.

#### **Flammable gases**

- Storage of flammable gases shall be limited as much as possible and risk assessment must be available.
- Must be properly secured.
- Should only be transported on special trolleys.
- Not brought along by notice of evacuation.

#### **Storage**

- Chemicals that are in regular use must be [stored](#) in approved chemical cupboards in the laboratory. Chemicals that are not in daily use must be clearly marked in accordance with the [labelling regulations](#) and kept in lockable storage rooms designed for the type of chemical in question. It should be noted that some chemicals cannot be stored [together](#).

#### **Waste**

Explosive waste should be handled with special attention and care, and according to [internal routines](#) at UiB.

### **GENERAL**

Risk assessment should be carried out before the purchase and storage of flammable liquids. If the amount of procurement / storage of flammable gas (category 1 and 2) are more than 0.4 m<sup>3</sup> and flammable liquids (category 1 and 2) is more than 6.0 m<sup>3</sup> then it should be reported to the Directorate for Civil Protection and Emergency Planning (according to regulation on the handling of flammable, reactive and pressurized substances). Fire Technical drawings showing fire cell division for university buildings can be obtained from the Estate and Facilities Management division (EIA). Explosive chemicals are generally not stored in the laboratories at the University of Bergen. Exceptions may be made after considering the needs and after notice is given to the local chemical inventory responsible at the unit. The amount of flammable solutions that can be stored in each laboratory depends on the building's technical design; building material, fire walls, firefighting equipment etc. Room for storage and use of flammable goods shall generally constitute separate fire compartments. EIA at UiB have an overview of fire cell division of laboratory buildings at UiB. The drawings can be obtained upon request.

#### **Appendix:**

[Act relating to the Prevention of Fire, Explosion and Accidents involving Hazardous Substances and the Fire Services](#)