# KIT SYNCHROTRON CHEMISTRY LABORATORY (2.1.3)

# Before you start

- A more helpful, detailed version of this Instruction can be found as pdf („user_chem_lab(2.1.3)_guidelines.pdf “) under the KIT Synchrotron download area.

  **You** are advised to download it as the web resource is updated regularly.

  - KIT Synchrotron download area

  **http://www.ibpt.kit.edu/user_experiments**

# Before you start

- **Rules and Regulations** together with the **Application form** to access the Chemistry Laboratory (2.1.3) are available in the download area

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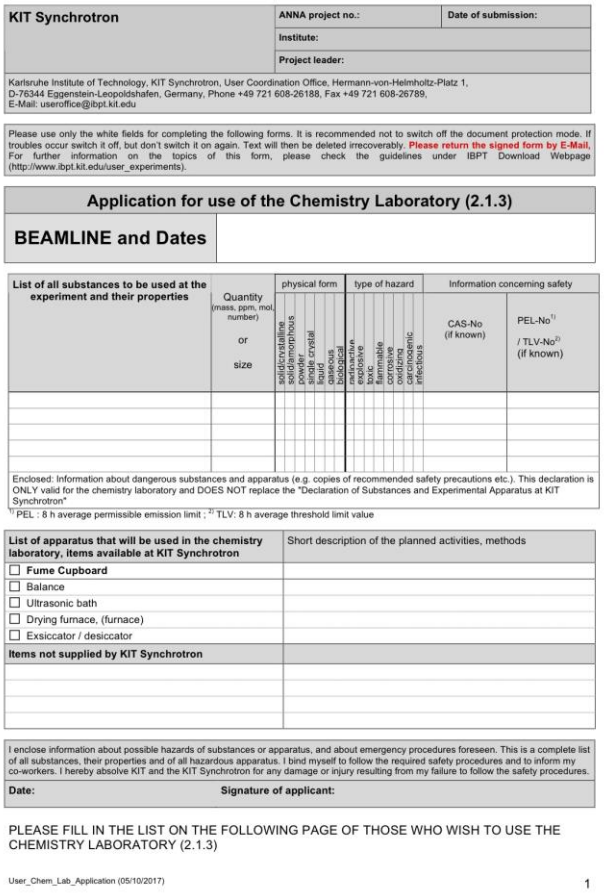

**KIT Synchrotron**

ANNA project no.: | Date of submission:

Institute:

Project leader:

Karlsruhe Institute of Technology, KIT Synchrotron, User Coordination Office, Hermann-von-Helmholtz-Platz 1, D-76344 Eggenstein-Leopoldshafen, Germany, Phone +49 721 608-26188, Fax +49 721 608-26789, E-Mail: useroffice@ibpt.kit.edu

Please use only the white fields for completing the following forms. It is recommended not to switch off the document protection mode. If troubles occur switch it off, but don't switch it on again. Text will then be deleted irrecoverably. **Please return the signed form by E-Mail.** For further information on the topics of this form, please check the guidelines under IBPT Download Webpage (http://www.ibpt.kit.edu/user_experiments).

**Application for use of the Chemistry Laboratory (2.1.3)**

**BEAMLINE and Dates**

| List of all substances to be used at the experiment and their properties | Quantity (mass, ppm, mol, number) or size | physical form: solid crystalline | solid amorphous | powder | small crystal | liquid | gaseous | biological | type of hazard: explosive | toxic | flammable | corrosive | oxidizing | carcinogenic | infectious | Information concerning safety: CAS-No (if known) | PEL-No[1] / TLV-No[2] (if known) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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Enclosed: Information about dangerous substances and apparatus (e.g. copies of recommended safety precautions etc.). This declaration is ONLY valid for the chemistry laboratory and DOES NOT replace the "Declaration of Substances and Experimental Apparatus at KIT Synchrotron"

[1] PEL : 8 h average permissible emission limit ; [2] TLV: 8 h average threshold limit value

| List of apparatus that will be used in the chemistry laboratory, items available at KIT Synchrotron | Short description of the planned activities, methods |
|---|---|
| ☐ **Fume Cupboard** | |
| ☐ Balance | |
| ☐ Ultrasonic bath | |
| ☐ Drying furnace, (furnace) | |
| ☐ Exsiccator / desiccator | |
| **Items not supplied by KIT Synchrotron** | |
| | |
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| | |

I enclose information about possible hazards of substances or apparatus, and about emergency procedures foreseen. This is a complete list of all substances, their properties and of all hazardous apparatus. I bind myself to follow the required safety procedures and to inform my co-workers. I hereby absolve KIT and the KIT Synchrotron for any damage or injury resulting from my failure to follow the safety procedures.

**Date:** **Signature of applicant:**

PLEASE FILL IN THE LIST ON THE FOLLOWING PAGE OF THOSE WHO WISH TO USE THE CHEMISTRY LABORATORY (2.1.3)

User_Chem_Lab_Application (05/10/2017) 1

- The **Application form** must be filled in before you start using the chemistry laboratory.

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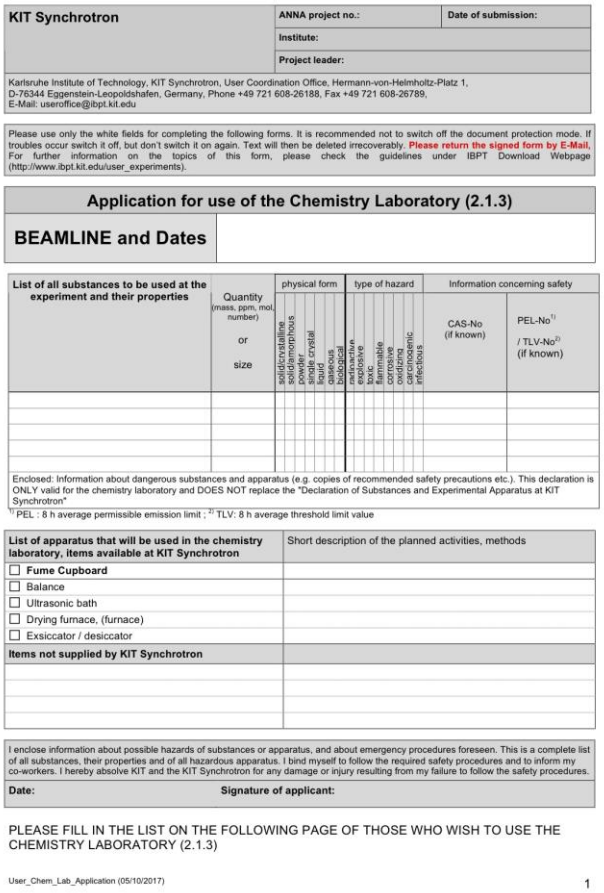

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**Date:** **Signature of applicant:**

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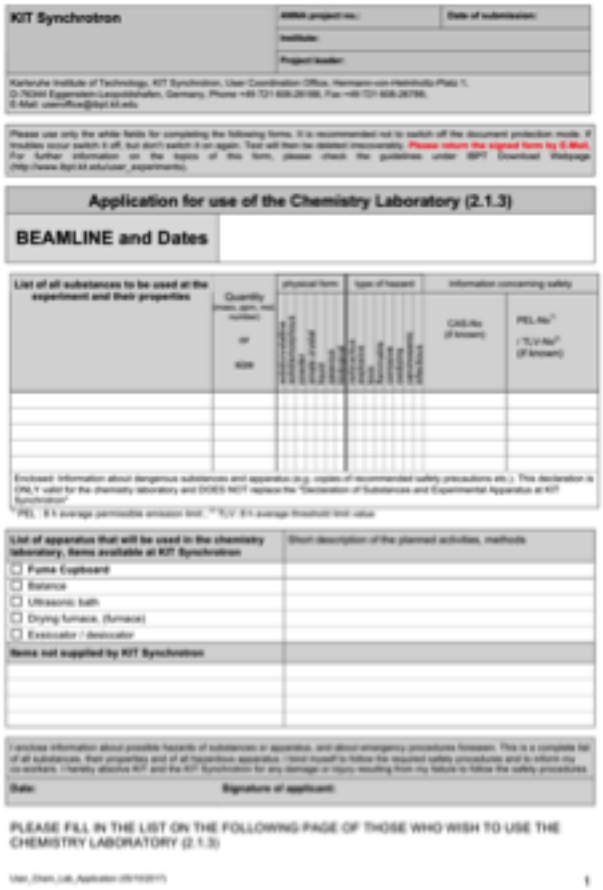
User_Chem_Lab_Application (05/10/2017) 1

- The **Application form** must be filled in before you start using the chemistry laboratory.
- The form needs to be sent in advance of the experiment (**minimum** of 3 weeks).
- Do not hesitate to ask in the case of problems and or special requirements.

- The **applicant** is responsible for **safely working** in the Laboratory

# Before you start



KIT Synchrotron

Application for use of the Chemistry Laboratory (2.1.3)

BEAMLINE and Dates

List of all substances to be used at the experiment and their properties

Quantity

physical form

type of hazard

information concerning safety

CAS-No (if known)

PEL-No* / TLV-No** (if known)

List of apparatus that will be used in the chemistry laboratory, items available at KIT Synchrotron

Short description of the planned activities, methods

- Fume Cupboard
- Balance
- Ultrasonic bath
- Drying furnace, (furnace)
- Exsiccator / desiccator

Items not supplied by KIT Synchrotron

Date:

Signature of applicant:

PLEASE FILL IN THE LIST ON THE FOLLOWING PAGE OF THOSE WHO WISH TO USE THE CHEMISTRY LABORATORY (2.1.3)

User Details

Beamline and Dates

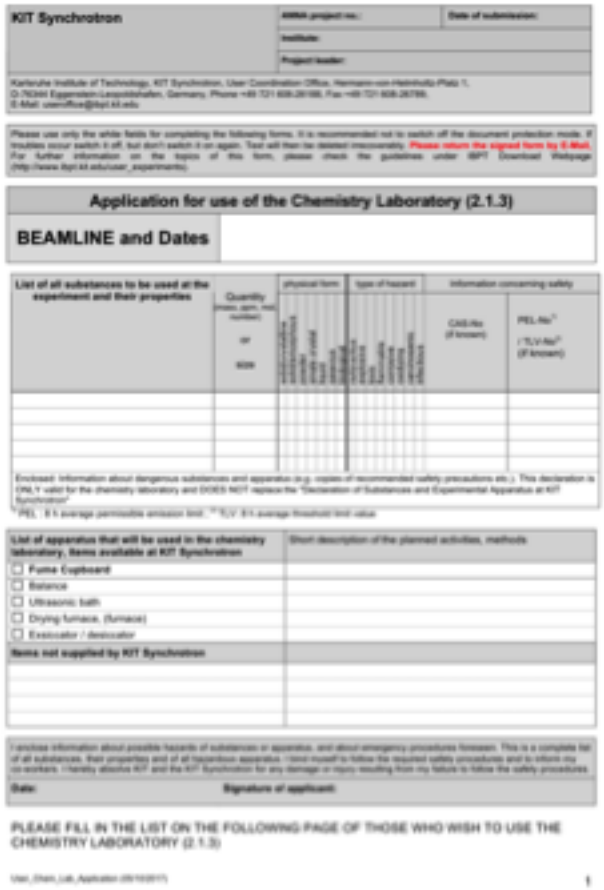
Chemicals

Apparatus

**Special requirements, procedures (e.g. waste)**

The Form Chemistry_Lab_Application(2.1.3).doc needs to be filled and returned before the experiment!

# Before you start



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Items not supplied by KIT Synchrotron

Date:

Signature of applicant:

PLEASE FILL IN THE LIST ON THE FOLLOWING PAGE OF THOSE WHO WISH TO USE THE CHEMISTRY LABORATORY (2.1.3)

The Form must be sent well in advance of the experiment (minimum of 3 weeks).

The **Applicant** is responsible for **Safely working** in the Laboratory

If special requirements, procedures, are needed this must be declared and discussed with the relevant people.

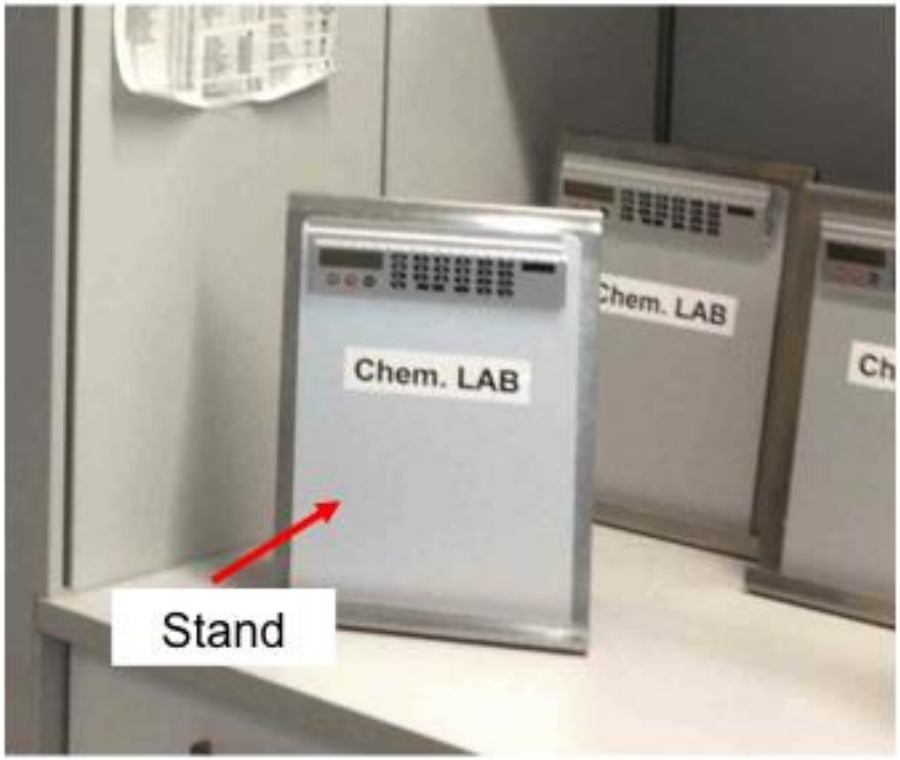
The Form Chemistry_Lab_Application(2.1.3).doc needs to be filled and returned before the experiment!

# Before you start

- Just before you start fill in the short **form** from the entrance door and display on the **stand** provided at your working area(s)

# Before you start

- The **form** provides Contact, Safety, and other relevant information for other people when you are not present




Form

| Work Area Information Form- Chemistry Laboratory (2.1.3) | |
|---|---|
| Beamline | |

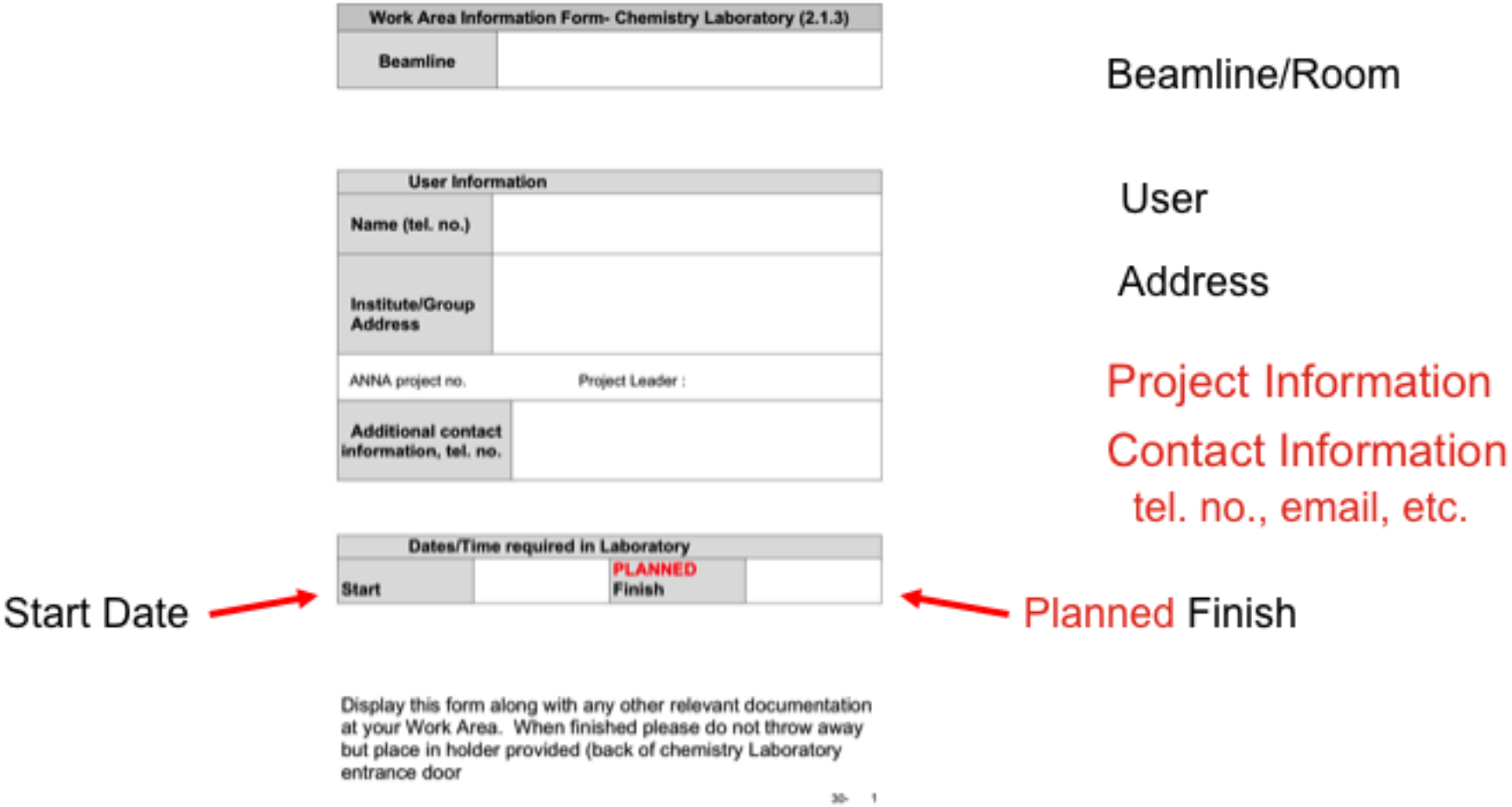
| User Information | | | |
|---|---|---|---|
| Name (tel. no.) | | | |
| Institute/Group Address | | | |
| ANNA project no. | | Project Leader : | |
| Additional contact information, tel. no. | | | |

| Dates/Time required in Laboratory | | | |
|---|---|---|---|
| Start | | PLANNED Finish | |

Display this form along with any other relevant documentation at your Work Area. When finished please do not throw away but place in holder provided (back of chemistry Laboratory entrance door

30- 1

# Before you start



| Work Area Information Form- Chemistry Laboratory (2.1.3) | |
|---|---|
| Beamline | |

Beamline/Room

| User Information | |
|---|---|
| Name (tel. no.) | |
| Institute/Group Address | |
| ANNA project no. | Project Leader : |
| Additional contact information, tel. no. | |

User

Address

Project Information

Contact Information

tel. no., email, etc.

| Dates/Time required in Laboratory | | | |
|---|---|---|---|
| Start | | PLANNED Finish | |

Start Date

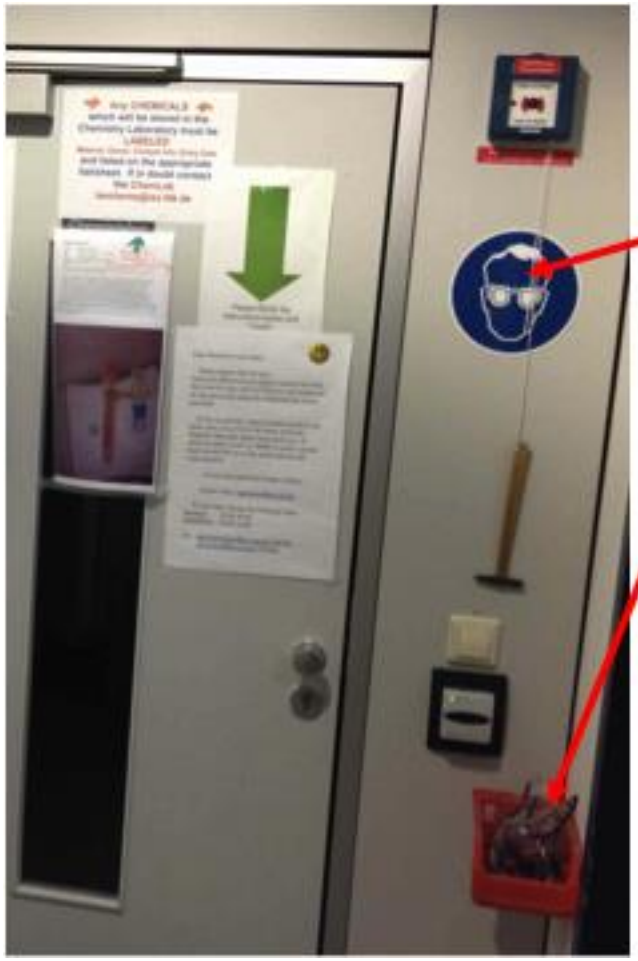
Planned Finish

Display this form along with any other relevant documentation at your Work Area. When finished please do not throw away but place in holder provided (back of chemistry Laboratory entrance door

30- 1

The Form provides Contact, Safety, Useful information, for other people when you are not present at your working Area!

# Safety Information



- Wear Safety glasses

- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- Body shower

- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- Body shower
- Emergency power-off

- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- Body shower
- Emergency power-off
- Fire extinguisher

- The **safety** of **yourself** and **others** has **priority** at all times

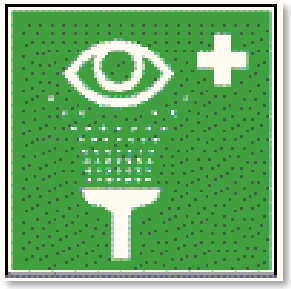
# Safety Information

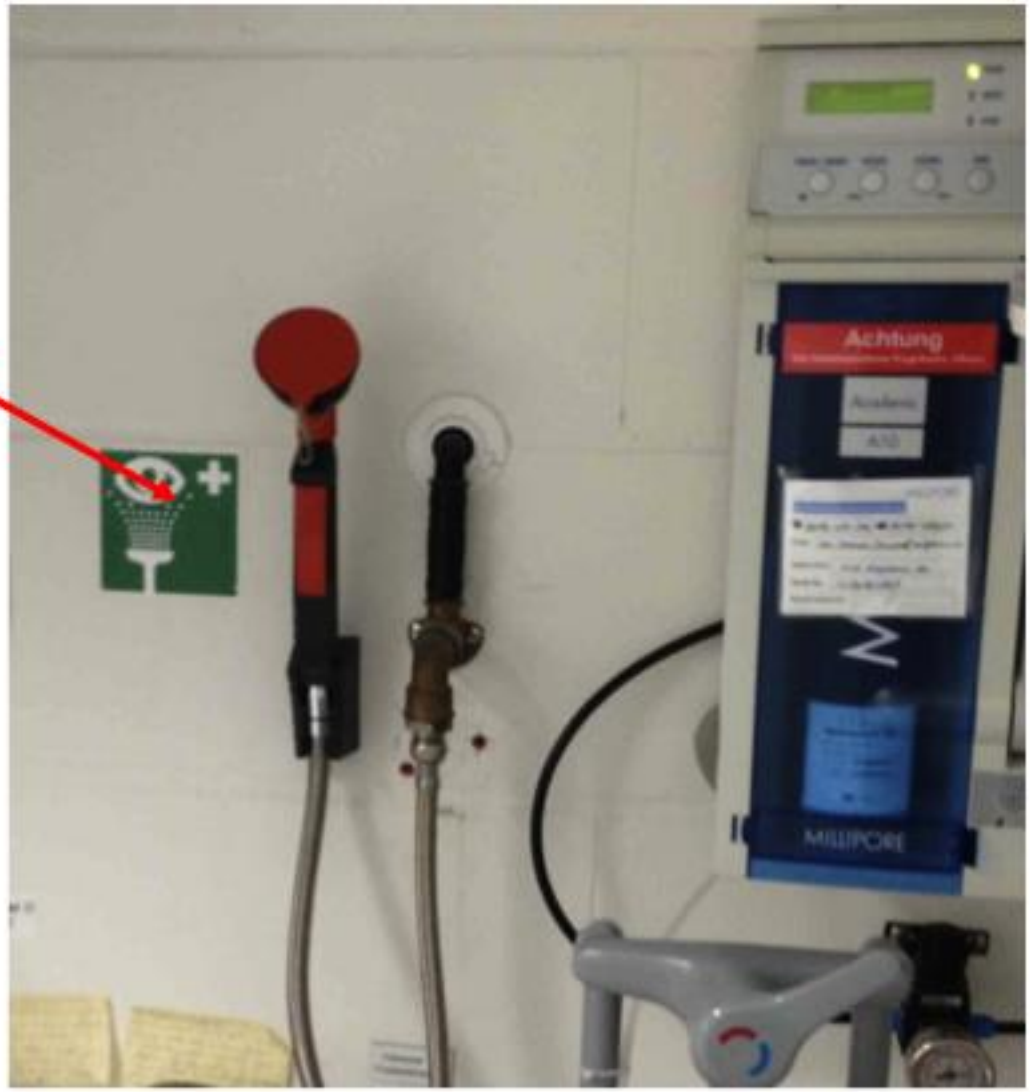
- Body shower
- Emergency power-off
- Fire extinguisher
- Laboratory coats

- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- Eye wash






- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- First aid


- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- In the case of an Emergency inside the laboratory use the emergency switch outside.

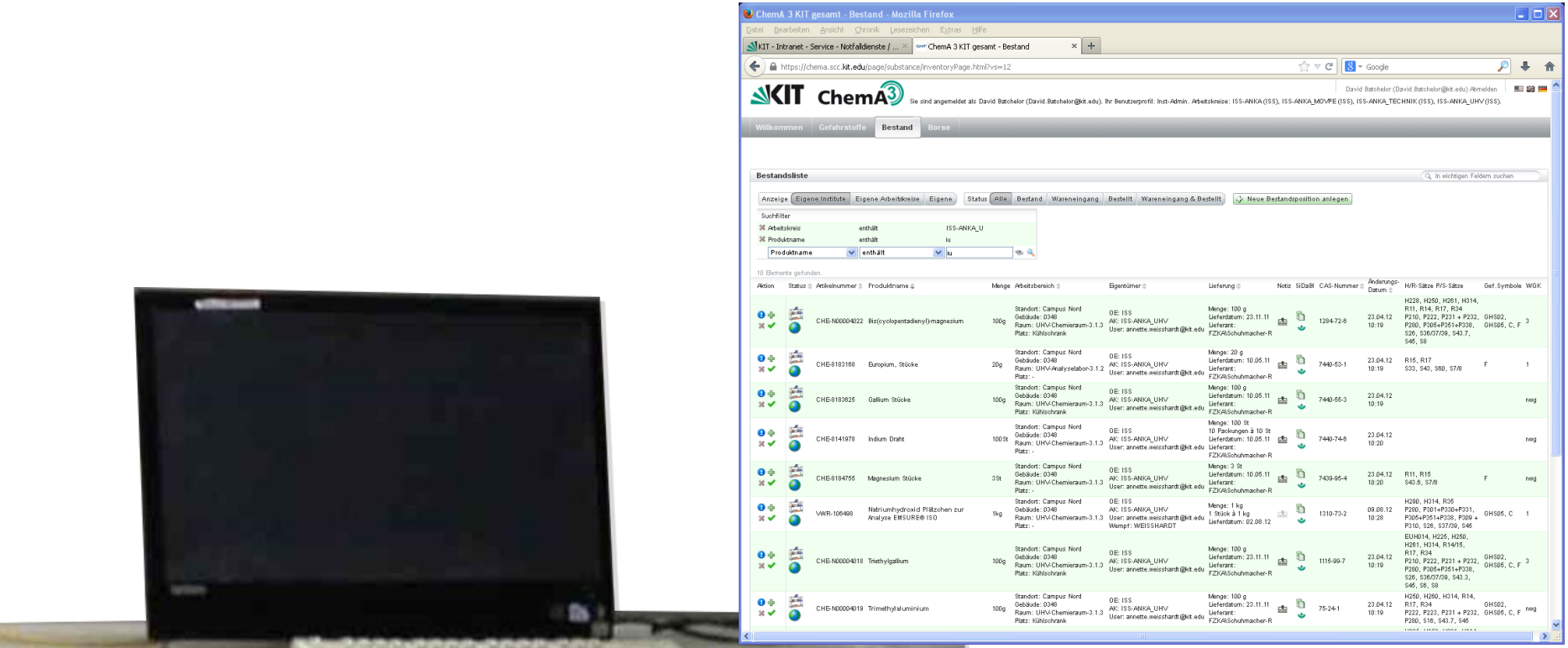
- The **safety** of **yourself** and **others** has **priority** at all times

# Safety Information

- **Fume cupboards** are principally for **Hazardous procedures**
- **Fume Cupboards** are not meant for the storage of chemicals.
- Close lid after use

# Safety Information

- Access to the KIT chemical database and other material on the internet is available via a computer in the laboratory



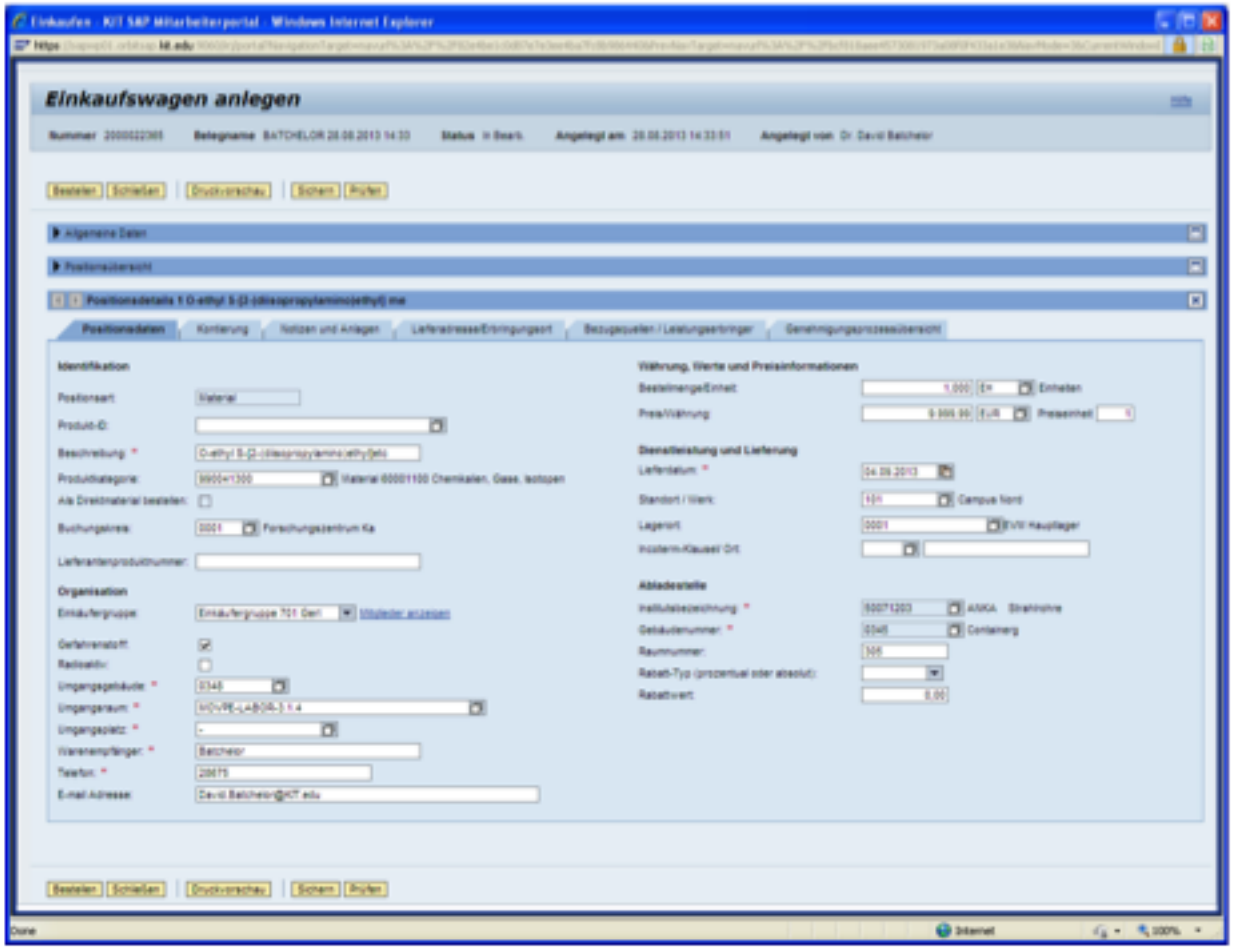

KIT chemical data-base access ChemA

# Safety Information (For KIT Internal ONLY)

The Information is essential for Safety services locating chemicals in an emergency

Chemical Hazard →

ChemA Entries →



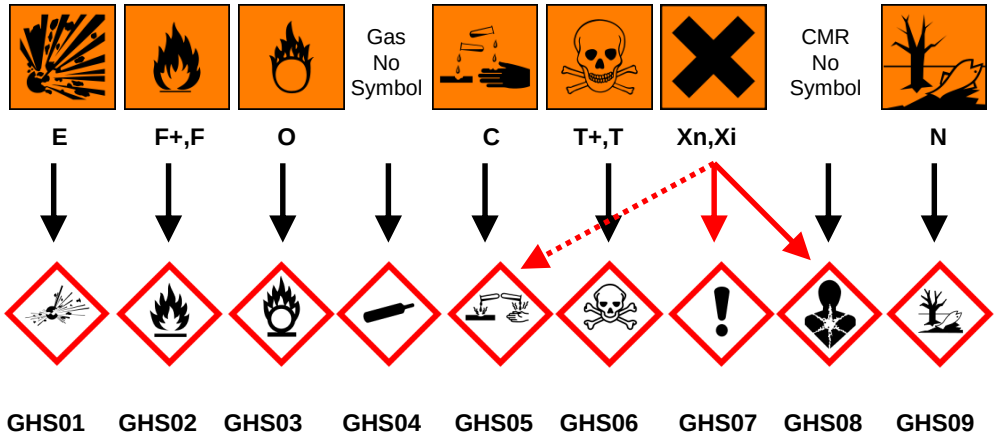

For KIT Internal Users it is essential that when ordering Hazardous Chemicals in SAP the boxes for ChemA and room number etc are entered correctly !

# Storage and Waste


- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

- **Blank Labels** and **Stickers** can be found in the cupboard

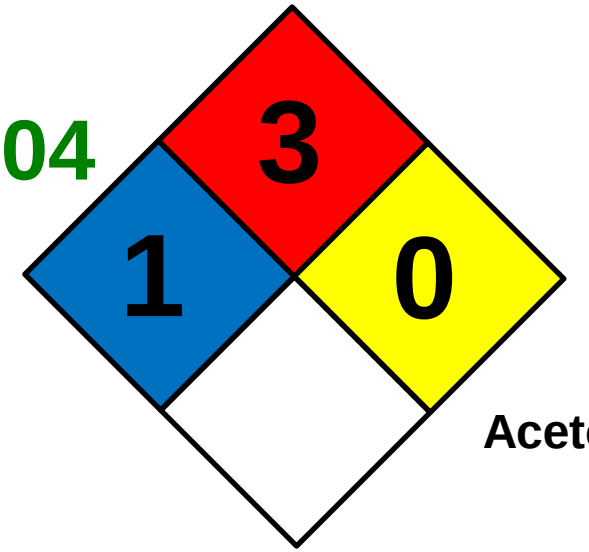
Hazard Symbols Old and New Harmonised System



# Storage and Waste

| Symbol | Special Notice |
|---|---|
| OX | Oxidizer, allows chemicals to burn without an air supply |
| ~~W~~ | Reacts with water in an unusual or dangerous manner |
| SA | Simple asphyxiant gas. Specifically limited to the gases: nitrogen, helium, |
| | |
| COR<br>ACID,ALK | Corrosive; strong acid or base (e.g. sulfuric acid, potassium hydroxide) |
| BIO or | Biological hazard |
| POI | Poisonous |
| RA,RAD or | Radioactive |
| CRYO | Cryogenic hazard |

## NFPA 704




Acetone

| Hazard Scale | Health | Flammability | Reactivity |
|---|---|---|---|
| 0 | Poses no health hazard, no precautions necessary. | Will not burn under typical fire conditions. | Stable |
| 1 | Exposure can cause irritation with only minor residual injury. | Considerable preheating before ignition and combustion can occur. | Normally stable, but can become unstable at elevated temperatures and pressures. |
| 2 | Intense or continued could cause temporary incapacitation or possible residual injury. | Moderately heating or relatively high ambient temperature before ignition can occur. | Violent chemical change at high temperature and pressure, may react violently with water. |
| 3 | Short exposure could cause serious, temporary, or moderate residual injury. | Can be ignited under almost all ambient temperature conditions. | Capable of shock detonation or explosive decomposition with high temperature |
| 4 | Very short exposure could cause death or major residual injury. | Rapidly vaporises under ambient conditions and burns readily . | Easily capable of detonation or explosive decomposition under ambient conditions. |

- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

# Storage and Waste

- Standard chemicals are provided and can be found in the designated cupboards


- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

# Storage and Waste


- In addition to the main storage provided in the Chemistry Laboratory additional storage for chemicals, e.g. Solvents, is provided in the Hall.

- Clear instructions, rules, are provided on the front of the cupboards.  In case of doubt then contact the responsible Laboratory personnel.

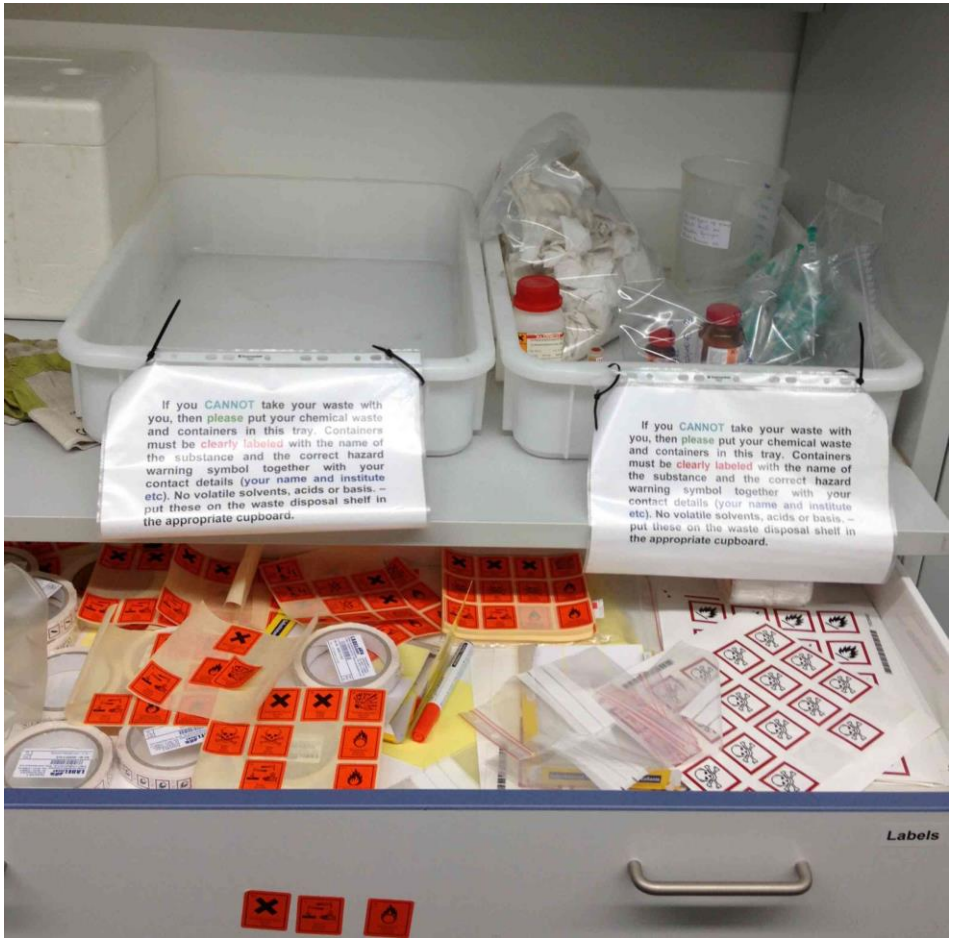
- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

# Storage and Waste


- All cupboards with chemicals have a contents lists
- If chemicals are to be stored and are not listed then update the list in the space provided. Likewise strike it out when it is removed or used up.

- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

# Storage and Waste




- **You** are responsible for your waste
- If chemicals cannot be stored safely we must be informed in advance.
- Unlabeled Chemicals must be disposed of. This is expensive and unnecessary.

- All chemicals must be **labeled** with **substance**, **owner**, **entry date** and **contact information**

# Summary

- Fill out **forms**
- Familiarize with **safety equipment** and its locations
- Use **Personal Safety Equipment** (PSE)

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- Fill out **forms**
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- Use **Personal Safety Equipment** (PSE)
- Avoid time pressure and **plan** ahead
- Keep the work space **clean**
- **Label** chemicals and waste

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**In case of an emergency call**

**3333**

Auch Du

hältst die Küche sauber,
Genosse!