Procedure for chemicals management at the ITM School – MMK)

1. Purpose

Management of chemicals should be done in accordance with the law. The purpose is to eliminate the risk of accidents/injuries to people or external/internal environment caused by inept handling, explosion or poisoning.

1. Extent/delimitation

This procedure covers the ITM School, department of Machine Design, Brinellvägen 83-85.

1. Definitions

The definitions below are used for the chemicals management at ITM School, Machine Design:

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| Management | An operation or action which means that a chemical or biotechnical organism is manufactured, processed, treated, packaged, stored, transported, used, disposed of, destructed, converted, sold, transferred or is the subject to any other comparable method. |
| Risk | Risk of accidents/injuries to people or external/internal environment caused by inept handling, explosion, poisoning or fire. |
| Chemical | A chemical substance or a mixture of chemical substances which are not goods. |
| CMR substances | Carcinogenic, mutagenic or reproduction interfering substances. |
| Risk assessment | Analysis of an existing or planned management with respect to the degree of combination of the probability of an accident (risk) with consequence to likewise. |
| Safety Data Sheet – (SDB) | Documents describing the risks of a certain chemical, and how the risks and consequences of accidents can be minimized. Should always be at hand. |
| Chemical Coordinator School level - (Ksam) | Description further down and also in separate document. |
| Chemical Manager (KK) | Description further down and also in separate document. |
| Klara Coordinator (KR) | Description further down and also in separate document. |
| Inventory personnel | Description further down in this document. |
| Laboratory Director (Labansv) | Description further down in this document. |
| Environmental Controller (UF) | Leif Svanblom |
| Head of Administration (EA) | Gunilla Hugosson |

1. Responsibility
	1. Dean of School:
* Is ultimately responsible for the management of chemicals at the ITM School.
* Is responsible for designating an overall chemicals coordinator at school level.
	1. Chemical Coordinator on school level (Ksam):
* Is responsible for informing of possible legislative changes in the chemicals sector which UF has informed about.
* Is responsible for coordinating the management of chemicals at school level.
* Is responsible for conducting inventory of education needs and order education for Chemical Managers at the departments. Note that UF (Leif Svanblom) separately arranges the education needs for KLARA Coordinators.
* Should provide help for Chemical Managers regarding issues affecting the chemicals at the departments.
	1. Head of department is responsible:
* That the management of chemicals takes place according to this routine.
* That responsible managers are appointed concerning chemicals management and that those have the appropriate education (for example: KLARA Coordinator, purchase manager).
* That adequate education and information is given to those handling chemicals.
* That documented procedures for chemicals management are available at the department.
* That the legal requirements concerning chemicals are met, for example, to perform risk assessments.
	1. Laboratory Director (Labansv) is responsible:
* That purchase, handling and disposal of chemicals are done according to procedure.
* That all chemicals are labelled and stored according to requirements (AFS 2011:19).
* To ensure that adequate protective and security measures has been taken and that they are followed. Consultation or help from KK, KR or the Fire Prevention Officer should be presumed.
* That everyone handling chemicals are aware of that SDB should be consulted and followed.
* To ensure that chemical-related risk assessments are made and recorded in KLARA (§8, AFS 2011:19).
* That there is a permit or that a permit is obtained for licensed chemicals.
* To assist with lists of the persons who have access to lockers and rooms where chemicals are stored.
* To notify KK and the Head of Department concerning accidents or incidents.
* To ensure that the purchase/acquisition and withdrawals are entered into KLARA (also outside the inventory period).
* That the employees in the lab exposed to CMR substances are recorded on a list that EA files.

**4.5 Chemical Manager (KK)**

At the department of Machine Design KK is the person, except Labansv, with the permission to acquire chemicals or make decisions about the entry of chemicals to the unit. All handling of chemicals must be communicated with KK.

KK reports primarily to Ksam and UF concerning KLARA, for example requests of altered and improved features in KLARA, and to Head of Administration and ITM concerning resource and time issues.

KK informs and reports to Labansv and other concerned parties on rules and activities connected with the management of chemicals.

Specifically KK holds the following assignments:

* To inform about Safety Data Sheets (SDB) and to be of assistance in any chemical-related issues.
* Participate in the making of risk assessments.
* To perform the annual inventory.
* That the purchased amount of chemicals should be reported annually for each chemical or other substance with labelling requirements.
* That destruction requirement is inventoried and how destruction is organized.
* To report the amount of hazardous chemicals destructed during the year.
* To report chemical incidents/accidents to Labansv, Head of Department, Dean of School and Ksam (Link to [form](http://intra.kth.se/blanketter-mallar/blanketter/sakerhet))
* To be responsible for the registration and management of CMR substances and to ensure that less hazardous substitutes, if possible, are used.
* To participate in safety inspections.

Head of Department, Labansv, Fire Prevention Officer, environmental representative as well as health and safety representative shall assist KK when necessary, for example approve that suggested Inventory Personnel have sufficient time or provide funding for destruction.

List of KK and KR can be obtained here: [Chemical Coordinators](https://intra.itm.kth.se/en/sakerhet/kemikalier-1.438448)

**4.6 KLARA Coordinator (KR)**

The KLARA Coordinator (KR) should assist KK, Inventory personnel and Laboratory Directors and in general all those involved with chemicals management, primarily with KLARA related information. Examples of this might be:

* That through KLARA produce lists of licensed chemicals or chemicals in a specific space.
* To act as Inventory personnel.
* To identify feature requests in KLARA, such as simplified label printing.
* To inform KK if Safety Data Sheets are missing.

**4.7 Inventory personnel**

Inventory personnel are a – sometimes – a temporary function during the time-limited inventory period, typically from May to June each year. To be able to act as Inventory personnel one must, at least, pass an elementary education in KLARA. Propositions of Inventory personnel are given by KK, KR or Laboratory Director or someone else familiar with the situation. Ksam then provides permission (right to do inventory in the areas covered).

The assignments of Inventory personnel are:

* To update the information concerning type, quantity and supplier of chemicals in KLARAs database.
* To inform KK/KR if mistakes are found or SDB is missing/is incorrect or other uncertainties.
1. Implementation

**5.1 Purchase**

At the department of Machine Design the Chemical Manager (KK) is the person, except Labansv, with authorization to obtain chemicals or decide on the introduction of chemicals to the department. All handling of chemicals must be communicated to KK.

Before a chemical is acquired the purchaser should always consult the SDB, which can be obtained from the supplier or from KLARA. Then a risk assessment concerning the chemicals potential environmental and health hazards are made. The assessment should be recorded in KLARA.

Purchases shall preferably be made through framework agreements. KTH holds framework agreements with several chemical suppliers:

<https://intra.kth.se/administration/upphandling/inkop-varor-och-tjanster-kths-ramavtal/ramavtal-kth/laboratorieverksamhet/kemikalier-for-laboratorieverksamhet-1.587372>

A larger amount of chemicals than what can be expected to be used over a reasonable period of time should not be acquired. After completed experiments the remaining chemicals still have to be handled. In most cases the chemicals are bound for destruction which can be costly. Therefore, chemical residues should be minimized.

KK/KR shall, in association with invoice approval, register the chemicals type, quantity and storage location in KLARA.

**5.2 Management**

Information on safe use of the chemical can be retrieved from the SDB. Use should always be made in an environmentally and safe way for you and your colleagues. Appropriate protective equipment such as safety glasses, protective gloves and protective coats should be available at all times. Drying and absorption materials which can be used in the event of a chemical leak or spill should be readily accessible. Handle the chemical in ventilated spaces which are intended for this purpose. It is the responsibility of everyone who handles chemicals to ensure that bottles/containers etc are clearly labelled. Persons handling chemicals should have the competence required for this role. This shall be ensured by education and information.

5.3 Storage

Information about storage is retrieved from the chemicals SDB. Chemicals should be stored in a safe and environmentally manner, in locations designed for this purpose. At the department of Machine Design the following areas are designated:

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| Level 1: | Oil supply room, A144  |
| Level 2: | Fume cabinet in DaVinci, A213 |
|  | Locker in spray lab, A221 |
|  | Chemical locker in Combustion Engine Lab, A229 |
|  | Chemical locker in workshop, A240 |
|  | Welding room, A242 |
| Level 3: | Shelf in the electronics lab, A330 |
| Level 4: | Chemical locker in clean room, A415 |
| Yard: | Fuel container |
|  | Gas storage |

Information concerning employees holding keys, access/authorization to lockers, rooms or other spaces where chemicals are stored can be found with the Chemical Manager and Labansv.

**5.4 Waste**

Chemical waste should be handled in an environmental and safe manner. Information can be retrieved from SDBs and local waste procedures. At the department of Machine Design chemical waste should be labelled and deposited in the appropriate place in the lab in consultation with KK.

**5.5 Destruction**

Chemicals which are not required should as a principle be considered for destruction. This undertaking falls upon KK in consultation with Labansv. The handling should be made according to the same rules as chemicals in use with requirements of the right labelling, storage etc. Chemicals with no “owners” are managed directly by KK.

All destruction shall be made by KK or by KK acknowledged person. After the destruction the event shall be noted in KLARA by KK or KR so that annual amount destroyed can be calculated. Destruction shall always be preceded by a review of the SDB.

It is essential when facing destruction that all containers are properly labelled with amount and substance. Therefore it is the responsibility of everyone involved handling chemicals to fix the incipient decay of the label.

**5.6 CMR substances (Carcinogenic, Mutagenic or Reproduction interfering substances)**

CMR substances shall, if possible, be avoided. In cases where they are considered an investigation shall be made whether less hazardous substances instead can be used. Ksam holds a form for this purpose.

KK, Labansv as well as health and safety representative should be notified if someone has been exposed to a CMR substance. Upon exposure the subject should be registered on a list. KK communicates a list to the Laboratory Director and the Laboratory Director informs EA. The easiest procedure is that the Laboratory Director completes a form for this matter, available on the ITM website, and submits to the EA (AFS 2011:19).

**5.7 General**

All employees working with chemicals should have adequate education.

In all chemicals management issues KK can be consulted. List of KK and KR can be obtained here: [Chemical Managers](https://intra.itm.kth.se/en/sakerhet/kemikalier-1.438448)

**5.8 KLARA competence**

All employees using the KTH domain are able to reach KLARA to consult SDB ([KLARA – web based chemical handling system](http://intra.kth.se/administration/klara-1.30420)).

The use of KLARA is a fundamental part in the chemical management. Therefore KK and Ksam, in consultation with the UF, must conduct an inventory of the need for education.

1. Attachments

No attachments.

1. Change Log

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| --- | --- | --- | --- |
| **Established version** | **Document date** | **Change** | **Name** |
| 00 | 2014-01-30 | Updated procedure. | Per Risberg |
| 01 | 2015-01-14 | Improved procedure after chemical audit at ITM. | Michael Norén |