

HANDLING CHEMICAL SUBSTANCES

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1 PURPOSE

This instruction describes the handling of chemical substances within INEOS Sverige AB as well as procedures for when a new chemical substance is introduced in the company. The instruction is based on AFS 2011:19 "Chemical work environment risks".

2 DEFINITIONS

Chemical substances refers to every element and every chemical compound, alone or in combination, naturally occurring or manufactured, intentionally or unintentionally occurring.

3 GENERAL

Chemical substances that may pose a danger to health, the environment or the working environment require extra care at introduction.

The substances are dangerous if they:

- are harmful to health
- are flammable
- are explosive
- have a harmful temperature
- displace oxygen
- can cause hazardous reactions
- are environmentally unfriendly

Risks when one might be exposed to hazardous substances:

- inhalation of air pollution created by the substance
- inhalation of air with too little oxygen (suffocation risk)
- skin contact with the substance in the event of direct contact or accidental splashes (e.g. burns or direct absorption through the skin)
- ingestion of the substance (as contamination on fingers)
- fire and explosion
- exhaust gases and sanding dust

The employer is responsible for the employee's health, environment and working environment. Keeping chemical risks under control is part of the responsibility. The employer must ensure that procedures are in place that mean that the rules regarding chemical work environment risks are followed.

Some important points in the rules:

- A risk assessment of handling must form the basis for product selection, selection of protection measures and planning of emergency preparedness.
- Consideration must also be given to risks other than chemical risks.
- The risk assessment must be documented.

- Work must be planned and conducted so that exposure to hazardous substances is minimised.
- Hygienic parameters set the maximum acceptable concentration in inhaled air.
- If air pollution is suspected, exposure should be investigated.
- Employees must be instructed on how to work safely.
- In the event of particularly hazardous work in confined spaces, a written work permit is required. See HMSS-308 point 5.
- Permission from authorities is required for the handling of certain substances. See AFS 2011:19 chemical work environment risks.
- Lists and safety data sheets of all handled chemicals must be available. These must be in ECOonline for INEOS and in folders with the Environmental engineer.
- All containers and pipe lines containing chemicals must be labelled.

In addition to the above, the company has committed itself to avoiding substances included in the PRIO database as phase-out substances (www.kemi.se) except VCM and EDC.

Where possible, substances included in the PRIO database as priority risk reduction substances (www.kemi.se) must also be avoided.

4 PROCEDURE FOR THE INTRODUCTION OF CHEMICAL SUBSTANCES

At INEOS Sverige AB, the following procedures apply for the introduction of new chemical substances for permanent use as well as for the testing, exchange or replacement of existing chemical substances.

The Laboratory and Technical Service are responsible for assessing temporary chemicals.

Procedure for risk assessment based on HMSM-4.04.06-06.

4.1 Direct import

When direct importing a chemical substance, the product notification must be made to the product register. The product notification is made after assessment of the chemical substance by the chemical group. Estimated annual consumption must also be stated.
Responsible: Work environment engineer

4.2 Replacement of existing chemical products

INEOS Sverige works according to the substitution principle and work to replace existing harmful chemical substances with less harmful ones is ongoing. This work is ongoing at all levels of the company. The PRIO database (www.kemi.se) is available for assistance.

Substances belonging to priority level "Phasing out" will eventually be replaced. Phasing out, product selection/substitution, is about fulfilling a required function without the use of the chemical itself.

Phasing out a substance is relevant when

- the substance has such environmental and health properties that any use is inappropriate

- risk assessments show that the risk is unacceptable in its current usage

For substances belonging to priority level "Priority risk reduction substance" it is especially important to think about how the substance is handled due to the substance's hazardous properties. Assess how great the usage risk is. Consider replacing the substance. Chemical substances in the PRIO database (Appendix 3) describe INEOS substitution work for chemical substances in ordinary production.

A review/update of appendix 3 and 4 occurs annually, representatives from HSE, Production and R&D participate.

4.3 Ceased usage and chemical consumption

Information about ceased usage of chemical substances, are reported to the Work environment engineer once a year at the beginning of the new calendar year.

Person responsible: relevant head of department.

4.4 Chemical reporting

A summary of the chemicals handled in quantities greater than 100 kg is made by the Work environment engineer annually by 31st March. The chemical summary is sent to the County Administrative Board. The summary must include information about those chemicals handled in quantities greater than 100 kg and that are classified as hazardous to health, irritating, toxic or corrosive.

Chemical products in ordinary production are listed in "Classification of chemical substances used in ordinary production" (appendix 4).

Before a new chemical substance is permitted to be used in production, the regulatory authority must be informed. The respective head of department and the Work environment engineer are responsible for ensuring that this happens.

4.5 Safety data sheet for chemical products manufactured by INEOS Sverige AB

For the chemical substances manufactured by INEOS Sverige, the department where the chemical substance is made establishes information for the safety data sheet. The work environment engineer is responsible for ensuring that the safety data sheets are registered in ECOonline, according to the requirements prescribed in KIFS 2008:2, KIFS 2005:5 and KIFS 2005:7. When a safety data sheet is updated, the work environment engineer must contact logistics and inform about the update.

4.6 Lists

All safety data sheets must be available in our ECOonline database. Chemical substances, which are only handled temporarily, do not have to be listed, but the safety data sheet must be available. Temporary handling means, according to AFS 2011:19, such handling that is neither frequent nor prolonged. Substances that are placed in storage at the workplace after use cannot be designated as temporary handling.

ECOonline must be available in each department that requires it. A written list of chemical substances and safety sheets, which provide information about chemical substances that

are handled in the department, must be available in the operational departments and Lab. A written list of all chemical substances and safety sheets for all chemical substances handled in the operational departments must be available in the management centre.

The work environment engineer is responsible for the ECOonline database. Super users are responsible for entering the time of the last change/update in ECOonline. So that the lists and data sheets of the chemical substances handled in the department remain current, super users are responsible for the respective area of responsibility.

4.7 Updating of product information sheets

When ordering chemicals, a safety data sheet must be requested from the supplier. Person responsible: Purchasing department.

Safety data sheets are updated according to the "Revise safety data sheets" procedure.

4.8 Cover sheet from ECOonline

A cover sheet is a simplification of the safety data sheet containing information regarding the chemical substance's health hazards and how to act during incidents with the product. These safety sheets can be printed from ECOonline and are put into folders in the department and used as reference for the products.

4.9 Contractors

Chemicals that contractors use are controlled via the procurement of contractors. They must have safety data sheets for the products that they work with at INEOS. Contractor's products, which INEOS own personnel also work with, must follow this instruction.

The contractor must submit the safety data sheet for chemical substances that the contractor intends to use at INEOS, which are not used in the company and thus not assessed by the chemicals group, to tosdb.ste@ineos.com

4.10 Labelling

All packaging and containers that are used, kept in stock or make up waste must be labelled with the information necessary to make it clear what the content is and how it is to be handled, in accordance with KIFS 2005:7 classification and labelling of chemical products. The respective head of department is responsible for this.

It is possible to generate a label from all of the safety data sheets in ECOonline. This can be done by the store as well as the tools store. The labels must have the following format in relation to the packaging.

Packaging size

Up to and including 3 l
over 3 l up to and including 50 l
over 50 l up to and including 500 l
over 500 l

Label format

A8 (74 x 52 mm)
A7 (105 x 74 mm)
A6 (148 x 105 mm)
A5 (210 x 148 mm)

APPENDIX 1
Products that contain thermoplastic components and constitute dangerous substances according to AFS 2005:18

Content	Chemical products	Store	Misc.	Tool store	Chlorine	VCM	PVC	Lab/TS
Epoxy	GMA (GM)						X	
NN-dimethylaniline	Norpol Accelerator 98-26 Aquafix Devcon A Devcon 5 min epoxy resin Metaltec 7100 Temamastic ST 200 Keranol E	X X X X			X X X	X		
Styrene	Atlac 282-05 Derakane 411-45 Derakane 441-400 Norpol Accelerator 98-02 Norpol Polyester Plastic Padding Chemical metal Polyester UP797 Polyester resin UP382 Sormat Anchor compound Norpol Dion 9001-700 Chemical metal	X X X X	X		X X X X X			
Acrylate	Loctite super adhesive plus 401 Mega pen Plus Loctite 577	X X	X X	X X		X		
Isocyanate	Froth-Pak /component A) B2 Haftvermittler 2001 Muster Hardener 525 Hardener for Armaflex Adhesive Scotchcast Resin no. 1471 Sikaflex-255FC	X X	X X X X					X