



Risk Assessment Experiment Involving Hazardous Products

Name requester: Tel:

People exposed:

- the experiment takes place in a research lab

Name & First Name	Employee or student #	Date Of Birth	Function

- the experiment takes place in an educational lab

- supervising personnel (mention name, first name, date of birth, function)

Name & First Name	Employee or student #	Date Of Birth	Function

- students (field of study, year, amount)

Field Of Study	Year	Amount

Unit Manager: Unit:

Address:

Room #:

Date of request:

Date of execution:

Target date for completion of the experiments:

Objective of the experiment:

1. Reaction Scheme And Working Method

2. Reagents / Intermediates / Risk Assessment

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Product Identification			Explosion And Fire Hazard			Harmful To Health							Other Hazards		Harmful To The Environment			
Product name (+ CAS #)	Physical State (Liquid, Solid, Gaseous)	Concentrations and quantities used	B Flammable (R11,R12)	Explosive (R1, R2, R3, R5, R6)	Unstable product (R17, R18, R19)	Incompatible with water (R14, R15, R16), organic solvents(R7, R8, R9), acids (R31, R32)	(Very) poisonous (R23-R28)	Carcinogenic (R45, R49)	Teratogenic (R46,R47), mutagenic (R61, R63)	Caustic/Irritant/Corrosive/Harmful (R20-R22, R34-R38)	Sensitizing (R42, R43)	Limited evidence of a carcinogenic effect	Possible risks of irreversible effects (R68)	Odor	Irradiation	Water (R50, R51)	Air (R59)	Harmful, Poisonous To The Environment (R52-R58)
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Additional notes for certain products::

Glassware/apparatuses used:

3. Risks Associated With The Experiment

- Glassware: cuts
- Elevated or cryogenic temperatures: burns, freezing
- Increased or reduced pressure: implosion, explosion
- Coolants: water spill nuisance
- Bunsen burner, heating jackets: fire, burning
- Unattended experiments

Hazardous products: risks associated with chemicals used and reactions carried out

Apparatuses: risks associated with the apparatuses used

Waste: hazardous reactions upon combining different waste streams

Other notes:

4. Safety Precautions

4.1. Motivate why less dangerous chemicals cannot be substituted for carcinogenic or other very hazardous ones.

4.2. Can quantities be kept as low as possible (can the experiment be scaled down)?

4.3. What precautions are taken to limit exposure to the hazardous products both during preparation and execution of the experiment?

Collective safety devices	Necessary	Adjustment required
- closed loop system	<input type="checkbox"/>	<input type="checkbox"/>
- hood	<input type="checkbox"/>	<input type="checkbox"/>
- local extraction	<input type="checkbox"/>	<input type="checkbox"/>
- ventilation	<input type="checkbox"/>	<input type="checkbox"/>
- safety screen	<input type="checkbox"/>	<input type="checkbox"/>
- sinks under set-up	<input type="checkbox"/>	<input type="checkbox"/>
other:		

Personal safety devices	Necessary	To order
- lab coat	<input type="checkbox"/>	<input type="checkbox"/>
- glasses	<input type="checkbox"/>	<input type="checkbox"/>
- gloves	<input type="checkbox"/>	<input type="checkbox"/>
- gas mask	<input type="checkbox"/>	<input type="checkbox"/>
- dust mask	<input type="checkbox"/>	<input type="checkbox"/>
other		

4.4. What specific preventive measures can be taken to allow for the safest and most environmentally friendly execution of the experiment. Are special precautions necessary regarding first aid?

- Purchase of solid products as crystals

- Verification of glassware for the presence of cracks
- Verification of presence of strain in cooling hoses
- Presence of sinks under the set-up
- Installation of fire extinguisher for metal fires
- Presence of oxygen kit (experiments involving cyanides)
- Presence of calcium gluconate (experiments involving hydrogen fluoride)
- Completion and submitting form Unattended Experiments (see also [CWIS](#))
- Specific apparatus related precautions:
- Other:

4.5 For educational experiments: student supervision

- **What risks are emphasized** (through manual, verbally) ?
- **How will the experiment be supervised** (e.g. verification of experimental set-up) ?

5. Waste

5.1. How must the different waste streams be disposed of? (indicate the chemical waste class for each individual waste product. Mention if it can be drained or removed as residual waste.

Waste stream	<u>Class</u>	Recipient present	Will be drained
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

6. Actions In Case Of Accident

6.1. In case of recipient fracture.

- **What method shall be used to clean up and remove the products used?**
- **In practice: Is it necessary to store neutralization products in the vicinity of the experiment, to request for waste containers of Class 6 or an intervention kit?**

6.2. What specific measures must be taken NEXT TO the standard procedures in case of fire or explosion, energy supply disruption, electrical short-circuiting, interruption or loss of water / compressed air / gas supply / other disruptions, accidental drain in the environment e.g. turn off gas supply, switch off apparatus, stop cooling

Any special actions with regard to first aid?

Date	Signature Unit Manager
Approval Risk Assessment		
	J. Van Neck, Manager Prevention Department
	L.Put, Manager Environmental Department

