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Created by: Lessmann  
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Activities: Laboratory work

# OPERATING INSTRUCTIONS

according to § 14 GefStoffV/GUV-I 5149  
Nanomaterialien am Arbeitsplatz



## HAZARDOUS SUBSTANCES

### Nanomaterials and respirable dust

#### SAFETY AND ENVIRONMENTAL HAZARDS

Hazards caused by nano material / fiber or respirable dust in addition to specific hazards:

- Health hazards caused by inhalation, ingestion or skin exposure.
- Ignition energy of flammable nanoparticles could be reduced due to particle size and shape.
- Hazard of dust explosion inside closed apparatus..
- **Specific hazards as stated in material safety data sheet!**



#### Preventive safety precautions and rules to minimize exposure

1. Nanomaterials are handled as harmful substances unless specified otherwise
2. Risk assessment and information about substances and work procedures
3. Preventive measures: A. substitution, B. technical, C. organisational, D. personal safety measures



**A: Substitution** of powders (dispersion, pastes, granulate, compounds etc). Use methods generating less aerosols.



**B: Technical measures:** Use closed apparatus if possible. Avoid generation of dust and aerosols. Work with open apparatus only under the fume hood with almost closed front sash. Clean with suitable device or wet cloth, do not blow off.



**C: Organisational measures:**

- Restrict access, minimize exposure time and number of persons involved.
- In case of generation of dust use fine dust masks P2/P3 according to EN149:2001
- Avoid eye and skin contact and respiration of dust. Wear protective gloves and eye glasses with side shields.



- Keep away from sources of ignition (electrical appliances, sparks, open flame). Prevent electrostatic charges.
- Reactive or catalytic reacting nanoparticles: Avoid contact with incompatible substances.
- **Specific safety precautions still apply!**
- Handle in accordance with proper industrial hygiene and good laboratory practice.

#### IN CASE OF RELEASE/ ACCIDENT

In addition to specific safety measures:

- In case of release do not blow off, clean with wet cloth.
- In case of dust use fine dust masks P2/P3 according to EN149 2001.
- **Specific safety measures still apply!**



#### FIRST AID

**Inform yourself about first-aid measures before start of work!**

- |                                 |   |
|---------------------------------|---|
| <b>In case of eye contact:</b>  | Flush eyes according to safety data sheet of substance.   |
| <b>In case of skin contact:</b> | Wash off according to safety data sheet of substance.     |
| <b>If swallowed:</b>            | Measures according to safety data sheet of substance.     |
| <b>If inhaled:</b>              | Fresh air or according to safety data sheet of substance. |



**Emergency call : 2500 (DES Y phone) or 040-8998-2500 (mobile)**

#### DISPOSAL

**A**

Keep in suitable, closed, distinctive and labeled containers according to material safety data sheet.