TECHNISCHE FAKULTÄT DER CHRISTIAN-ALBRECHTS-UNIVERSITÄT ZU KIEL	**Operating instruction in accordance with § 20 GefStoffV** Print date 23.07.03	Chair of Material Science

Laboratory/work area: **Wet laboratory** | Activity: **Pore etching**

D M F

N,N-Dimethylformamide

Dangerous for humans and environment

Abiotic degradation:
air: Rapid degradation.

Biologic degradation:
Biodegradation: >90 % /28 d modified OECD screening test.
The product is readily biodegradable according to the OECD criteria.

Behavior in environmental compartments:
Distribution: log p(o/w): -0.85 (experimental).
No bioaccumulation is to be expected (log P(o/w <1).
Henry constant: 0.00747 Pa*m^3/mol.
Passage from aqueous solution into the atmosphere is not to be expected.

Ecotoxic effects:
Biological effects:
Fish toxicity: L.macrochirus LC_{50}: 6300 mg/l /96 h. Onchorhynchus mykiss LC_{50}: 9800 mg/l /96 h.
P.promelas LC_{50}: 10600 mg/l /96 h.
Daphnia toxicity: Daphnia magna EC_{50}: 15700 mg/l /48 h.
Algeal toxicity: Desmodesmus subspicatus IC_{50}: >500 mg/l /96 h.
Bacterial toxicity: Photobacterium phosphoreum EC_{50}: 20000 mg/l /5 min microtox test.
Maximum permissible toxic concentration:
Algeal toxicity: Sc.quadricauda IC_5: 10 mg/l.
When used properly, no impairments in the function of waste- water-treatment plants are to be expected..

Safeguard and directives

May cause harm to the unborn child. Also harmful by inhalation and in contact with skin. Irritating to eyes.

Restricted to professional users. Attention -
Avoid exposure - obtain special instructions before use.

Conditions to be avoided

Strong heating.

Substances to be avoided

alkali metals, halogens, halides, reducing agents, triethylaluminium, nitrates, metallic oxides, nonmetallic oxides. Violent reactions possible with: strong oxidizing agents, halogenated hydrocarbons.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

hygroscopic;
Explosible with air in a vaporous/gaseous state when heated.

Specific control parameter

EC

Name	N,N-Dimethylformamide
Embryotoxic	R(E) 2:should be regarded as if it impaire developmental toxicity

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection:	required when vapours/aerosols are generated. Filter A (acc. to DIN 3181) for vapours of organic compounds
Eye protection:	required
Hand protection:	required

Industrial hygiene:
Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood . Do not inhale substance.

☎ Fire department 0 /112 **Behavior in the case of danger** ☎ Emergency 0 / 19222

Person-related precautionary measures:
Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

First assistance **First assistant: (J. Bahr, Tel.: 6183):**

After inhalation: fresh air. Call in physician if necessary.
After skin contact: wash off with plenty of water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophtalmologist.
After swallowing: make victim drink plenty of water, induce vomiting. Immediately call in physician.

Adequate disposal

Dispose remainders, empty bundles as special refuse (contact: Kai Rath).

Signature of the responsible person:

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