

## 1. Identification of the substance/preparation and of the company/undertaking

### Identification of the product

N,N-Dimethylformamide

### Manufacturer/supplier identification

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## 2. Hazards identification

### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 5)

Acute toxicity, Inhalation (Category 3)

Acute toxicity, Dermal (Category 4)

Skin corrosion/irritation (Category 3)

Serious eye damage/eye irritation (Category 2A)

Reproductive toxicity (Category 1B)

### Label elements

Pictogram



Signal word Danger

### Hazard statement(s)

- H226 Flammable liquid and vapor.
- H303 May be harmful if swallowed.
- H312 Harmful in contact with skin.
- H316 Causes mild skin irritation.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H360 May damage fertility or the unborn child.

### Precautionary statement(s)

- P203 Obtain, read and follow all safety instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

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|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| P264 + P265               | Wash hands thoroughly after handling. Do not touch eyes.                                                                          |
| P271                      | Use only outdoors or in a well-ventilated area.                                                                                   |
| P280                      | Wear eye protection/ face protection.                                                                                             |
| P301 + P317               | IF SWALLOWED: Get medical help.                                                                                                   |
| P303 + P361 + P364 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Rinse SKIN with water [or shower]. |
| P304 + P340 + P316        | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.                |
| P305 + P351 + P338        | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  |
| P318                      | IF exposed or concerned, get medical advice.                                                                                      |
| P321                      | Specific treatment (see on this label).                                                                                           |
| P332 + P317               | If skin irritation occurs: Get medical help.                                                                                      |
| P337 + P317               | If eye irritation persists: Get medical help.                                                                                     |
| P370 + P380               | In case of fire: Evacuate area.                                                                                                   |
| P403 + P233 + P235        | Store in a well-ventilated place. Keep container tightly closed. Keep cool.                                                       |
| P405                      | Store locked up.                                                                                                                  |
| P501                      | Dispose of contents/ container to an approved waste disposal plant.                                                               |

Supplemental Hazard Statements  
none

### 3. Composition/information on ingredients

#### Synonyms

N,N-Dimethylformamide

CAS-No.: 68-12-2

M: 73.09 g/mol

Molecular formula:  $\text{HCON}(\text{CH}_3)_2$

### 4. First aid measures

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 6. Accidental release measures

#### Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

**7. Handling and storage****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Conditions for safe storage**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**8. Exposure controls and personal protection****Appropriate engineering controls**

General industrial hygiene practice.

**Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

**9. Physical and chemical properties**

**Form:** clear liquid

**Colour:** colorless

**Odour:** not available

**pH value:** not available

**Melting point:** -61°C.

**Boiling point:** 153°C

**Ignition temperature:** not available

**Flash point:** 17°C

**Autoignition temperature:** not available

**Explosion limits**

**lower:** 2.2 %(V)

**upper:** 16%(V)

**Density :** 0.94 g/cm<sup>3</sup>

**Bulk density:** not available

**Solubility in**

**water (20 °C) :** slightly soluble in water

**diluted acids (20 °C) :** not available

**Thermal decomposition:** not available

**10. Stability and reactivity****Chemical stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Strong oxidants

**Hazardous decomposition products**

Other decomposition products - no data available

**11. Toxicological information****Acute toxicity**

LD50 Oral - Rat - 3,010 mg/kg

LD50 Inhalation - Rat - 4 h – 5.85 mg/l

LD50 Dermal - Rabbit - 1,500 mg/kg

**Skin corrosion or irritation**

no data available

**Serious eye damage or eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Reproductive toxicity**

no data available

**Carcinogenicity**

IARC: 2A - Group 2A: Possible Carcinogenic to humans.

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**12. Ecological information****Toxicity**

Toxicity to fish

LC50 - Oncorhynchus mykiss - 9,000 - 13,000 mg/l - 96 h

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Toxicity to daphnia and other aquatic invertebrates      EC50 - Daphnia magna (Water flea) - 9,600 - 13,100 mg/l- 48 h

**Persistence and degradability**

Biodegradability aerobic - Exposure time 21 d

Result: 100 % - Readily biodegradable.

**Bioaccumulative potential**

Bioaccumulation    Cyprinus carpio (Carp) - 56 d at 25 °C - 0.002 mg/l(N,N-dimethylformamide)

Bioconcentration factor (BCF): 0.3 - 1.2

**Mobility in soil**

no data available

**13. Disposal considerations**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**14. Transport information**

**ADR/RID**

UN-Number: 2265    Class: 3    Packing group: III

Proper shipping name: N,N-DIMETHYLFORMAMIDE

**IMDG**

UN-Number: 2265    Class: 3    Packing group: III

Proper shipping name: N,N-DIMETHYLFORMAMIDE

Marine pollutant: no

**IATA**

UN-Number: 2265    Class: 3    Packing group: III

Proper shipping name: N,N-Dimethylformamide

**15. Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**16. Other information**

General update.

*Regional representation:*

This information is given on the authorised Safety Data Sheet for your country.