

SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company/undertaking

Product Name: N,N-Dimethylformamide
CAS: 68-12-2
Application: Laboratory chemicals, Manufacture of substances
Manufacturer: Sinopharm Chemical Reagent Co., Ltd. No. 52 Ning Bo Road, Shanghai 200002, China
Fax: 86-021-6321403
Emergency Telephone: 86-0532-83889090
Email: sj_zjzx@sinopharm.com
Website: <http://www.reagent.com.cn>
MSDS No: SCRC CSDS68-12-2 N,N-Dimethylformamide

2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3) Acute toxicity, Inhalation (Category 4) Acute toxicity, Dermal (Category 4) Serious eye damage/eye irritation (Category 2) Reproductive toxicity (Category 1B)

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word: Danger

Hazard statement(s): H226 Flammable liquid and vapour. H312 Harmful in contact with skin. H319 Causes serious eye irritation. H332 Harmful if inhaled. H360 May damage fertility or the unborn child.

Precautionary statement(s):

P201 Obtain special instructions before use. P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ eye protection/ face protection. P281 Use personal protective equipment as required.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P337 + P313 If eye irritation persists: Get medical advice/ attention. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

not applicable

not applicable

Other hazards

Rapidly absorbed through skin.

3. Composition/information on ingredients

Substance/Mixture: Substance

Component	CAS RN	Concentration
N,N-Dimethylformamide	68-12-2	≤100

4. First aid measures

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

no data available

5. Firefighting measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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. For personal protection see section 8.

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 (see section 13).

Reference to other sections

For disposal see section 13.

7. Handling and storage

Precautions for safe handling

Avoid exposure - obtain special instructions before use. 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. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

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. Handle and store under inert gas. Storage class (TRGS 510): Flammable liquids

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure controls/personal protection

Control parameters

Components with workplace control parameters

MAC: No data available

PC-STEL: No data available

TLV-TWA: 10ppm[皮]

PC-TWA: No data available

TLV-C: No data available

TLV-STEL: No data available

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

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

Skin protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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

Information on basic physical and chemical properties

a) Appearance	Form: liquid, clear Colour: colourless
b) Odour	amine-like
c) Odour Threshold	No data available
d) pH	7 (200g/L, H ₂ O, 20°C)
e) Melting point/freezing point	-61°C
f) Initial boiling point and boiling range	153°C/760mmHg
g) Flash point	136.4°F/58°C
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available

j) Upper/lower flammability or explosive limits	15.2 2.2
k) Vapour pressure	0.5 (25°C)
l) Vapour density	2.51
m) Relative density	ρ (20) 0.945-0.952g/mL
n) Water solubility	completely miscible
o) Partition coefficient: noctanol/water	-0.87
p) Auto-ignition temperature	445
q) Decomposition temperature	374
r) Viscosity	0.69mPa · s (40°C)、7.97mm ² /s (40°C)
s) Explosive properties	No data available
t) Oxidizing properties	No data available

Other safety information

No data available.

10. Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

11. Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 2,800 mg/kg LC50 Inhalation - Rat - 4 h - 9 - 15 mg/l LD50 Dermal - Rabbit - 1,500 mg/kg

Skin corrosion/irritation

Skin - Human Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit Result: Moderate eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Mouse lymphocyte Mutation in mammalian somatic cells.

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (N,N-Dimethylformamide)

Reproductive toxicity

May cause congenital malformation in the fetus.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: LQ2100000

12. Ecological information

Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 9,000 - 13,000 mg/l - 96 h LC50 - Lepomis macrochirus (Bluegill) - 6,700 - 7,500 mg/l - 96 h LC50 - Pimephales promelas (fathead minnow) - 10,400 - 10,800 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 9,800 mg/l - 96 h LC50 - Lepomis macrochirus (Bluegill) - 6,300 mg/l - 96 h LC50 - Pimephales promelas (fathead minnow) - 10,600 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 9,600 - 13,100 mg/l - 48 h EC50 - Daphnia magna (Water flea) - 15,700 mg/l - 48 h Toxicity to algae LC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 96 h

Persistence and degradability

Biodegradability Result: > 90 % - Readily biodegradable

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. Disposal considerations

Waste treatment methods

Product Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this

material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company

Contaminated packaging

Dispose of as unused product.

14. Transport information

UN number

ADR/RID:2265	IMDG:2265	IATA:2265
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UN proper shipping name

ADR/RID:N,N-DIMETHYLFORMAMIDE	IMDG:N,N-DIMETHYLFORMAMIDE	IATA:N,N-Dimethylformamide
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Transport hazard class(es)

ADR/RID:3	IMDG:3	IATA:3
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Packaging group

ADR/RID:III	IMDG:III	IATA:III
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Environmental hazards

ADR/RID:No data available	IMDG:No data available	IATA:No data available
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Special precautions for user

no data available

15. Regulatory information

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H226 Flammable liquid and vapour. H312 Harmful in contact with skin. H319 Causes serious eye irritation. H332 Harmful if inhaled. H360 May damage fertility or the unborn child.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sinopharm Chemical Reagent Co.,Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.