

GPS Safety Summary

Substance Name:

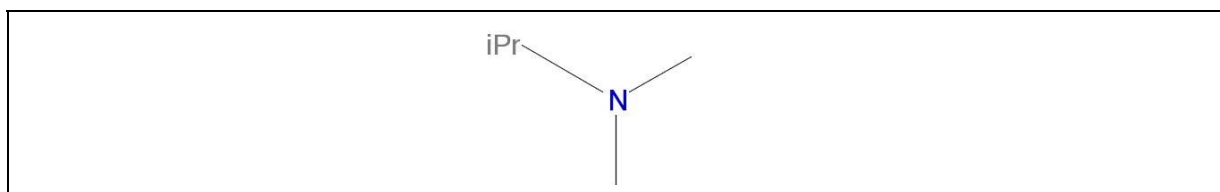
N, N-dimethylisopropylamine

1. General Statement

N, N-dimethylisopropylamine is a colourless liquid miscible in water. It is an amine commonly called DMIPA. It is a highly flammable liquid and a corrosive product.

2. Chemical Identity

Name: N, N-dimethylisopropylamine
Brand name: DMIPA
Chemical name (IUPAC): N,N-dimethylpropan-2-amine
CAS number(s): 996-35-0
EC number: 213-635-5
Molecular formula: C₅H₁₃N
Structure:



3. Use and applications

N, N-dimethylisopropylamine is mainly used as a catalyst in the foundry industry.

4. Physical / Chemical properties

N, N-dimethylisopropylamine is a highly flammable liquid organic substance having the following characteristics and physico-chemical properties:

| Property | Value |
|---------------------------|------------------------------------|
| Physical state | liquid at 20°C and 1013 hPa |
| Colour | colourless |
| Odour | ammoniacal |
| Molecular weight | 87.16 g/mol |
| Density | 0.713 at 20°C |
| Vapour pressure | 189.9 hPa at 20°C |
| Freezing / boiling points | -136°C / 66.25°C at 1013 hPa |
| Flammability | Highly flammable liquid and vapour |
| Flash point | -24.8°C (closed cup) |

| | |
|--|-------------------------------------|
| Self-ignition temperature | 205°C at 1013 hPa |
| Explosive / oxidizing properties | Not relevant based on its structure |
| Water solubility | completely soluble at 20°C |
| Octanol-water partition coefficient (Log K _{ow}) | 0.89 at 25°C |

5. Health Effects

| Effect Assessment | Result |
|--|---|
| Acute Toxicity Oral / inhalation / dermal | Harmful by oral route. Toxic by inhalation. Of low toxicity by skin contact |
| Irritation / corrosion Skin / eye/ respiratory tract | Corrosive to the skin. Severely irritating to the eyes. Irritating to the respiratory tract |
| Sensitisation | Not a skin sensitizer |
| Toxicity after repeated exposure Oral / inhalation / dermal | Oral and inhalation studies on an analogue substance did not suggest a specific systemic toxicity following repeated exposure. Irritation of the respiratory tract was observed by inhalation |
| Genotoxicity / Mutagenicity | No evidence of genetic toxicity |
| Carcinogenicity | Not anticipated to cause cancer under conditions of normal use |
| Reproductive / Developmental Toxicology | Studies on analogue substances did not suggest toxic effects on the fertility and the development |

6. Environmental Effects

The potential of N,N-dimethylisopropylamine for bioaccumulation is low. This product will however persist in the environment. It is toxic to aquatic life with long lasting effects.

| Effect Assessment | Result |
|-------------------|---|
| Aquatic Toxicity | Toxic to aquatic life with long lasting effects |

| Fate and behaviour | Result |
|---------------------------|----------------------------------|
| Biodegradation | Not readily biodegradable |
| Bioaccumulation potential | Not expected to bioaccumulate |
| PBT / vPvB conclusion | Not considered as PBT* or vPvB** |

*: Persistent, Bioaccumulative and Toxic (PBT)

** : very Persistent and very Bioaccumulative (vPvB)

7. Exposure

7.1 Human health

N, N-dimethylisopropylamine is manufactured, used and formulated within industrial settings. The primary routes of industrial exposure of N, N-dimethylisopropylamine (DMIPA) are skin contact and inhalation, ingestion is not an anticipated route of exposure. Workers may be exposed during cleaning, maintenance, transfer, sampling and analysis.

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Based on the risk assessment, the exposure can be kept at a safe level (strictly below occupational exposure limits, when applied) when activities are carried out under conditions recommended in the Extended Safety Data Sheet (see Chap. 8 and Exposure Scenarios). Procedures, controls, suitable collective and personal risk management measures, good industrial hygiene practices and risk communication through appropriate training of workers should be implemented.

In case of exposure to the undiluted substance, workers should follow the first aid measures recommended in the Safety Data Sheet.

7.2 Environment

The assessment of the environmental exposure was made for all the uses and resulted life cycle stages of the substance from the manufacture to the waste stage.

DMIPA is manufactured and used in continuous or batch processes within industrial settings.

Based on the risk assessment, environmental exposure can be kept at a safe level when activities are carried out under conditions recommended in the extended Safety Data Sheet (see Chap. 6, and Exposure Scenarios).

All industrial aqueous releases that may contain the substance must be treated to avoid any exposure to the environment.

Disposal, treatment or recycling of industrial waste must comply with chap. 13 of the Safety Data Sheet and applicable regulations to preserve the environment.

Procedures, controls and risk management measures should be implemented on industrial manufacturing and application sites; effluents that may contain the substance must be treated to avoid any exposure to the environment.

8. Risk Management recommendations

| Human health measures | | |
|-----------------------------|---|---|
| Organizational | Collect the latest available Safety Data Sheet. Implement good basic standards of occupational health. Ensure operatives are well informed of the hazards and trained to minimise exposures. Handle and store according to the indications of the Safety Data Sheet. | |
| Engineering controls | Provide appropriate local exhaust ventilation at points of emission. Ensure that eye- and handwash stations and safety showers are close to workstation locations. | |
| Protection | Eye/Face protection: | Safety glasses with side-shields |
| | Skin and body protection: | At the workplace : Protective clothing (cotton) Intervention at incident: Waterproof suit |
| | Hand protection: | Gloves (PVC, neoprene) According to permeation index EN 374: 1 (time elapsed > 10 mins) |
| | Respiratory protection: | Low concentrations or short activity: Mask with specific cartridge (Recommended Filter type: A2B2E2K2P3) High concentrations or prolonged activity: Self contained Breathing Apparatus |

Environment protective measures

Do not release into the environment. Do not let product enter drains.
Use waste water treatment systems. Do not spread sludge to soil.
Elimination: destroy the product by incineration (in accordance with local and national regulations) (see chap. 13 of the Safety Data Sheet).

9. Regulatory Information / Classification and Labelling




9.1 Regulatory Information


This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

9.2 Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according to CLP (EC) 1272/2008, implementation of the GHS in the European Union.

| Classification | |
|---|--|
| According to REGULATION (EC) no 1272/2008: | |
| <ul style="list-style-type: none">– Flammable liquids: Category 2– Acute toxicity – Oral: Category 4– Acute toxicity – Inhalation: Category 3– Skin corrosion – Category 1A– Serious eye damage: Category 1– Specific target organ toxicity - single exposure (inhalation): Category 3– Chronic aquatic toxicity – Category 2 | |
| Signal word | |
| Danger | |
| Pictogram | |
| <ul style="list-style-type: none">– GHS02: flame |  |
| <ul style="list-style-type: none">– GHS05: corrosion |  |
| <ul style="list-style-type: none">– GHS06: skull and crossbones |  |

| | |
|--|--|
| <ul style="list-style-type: none"> — GHS09: environment |  |
| Hazard statement | |
| <ul style="list-style-type: none"> — H225: Highly flammable liquid and vapour. — H302: Harmful if swallowed. — H331: Toxic if inhaled. — H314: Causes severe skin burns and eye damage. — H335: May cause respiratory irritation. — H411: Toxic to aquatic life with long lasting effects. | |
| Additional classification according to Globally Harmonized System (GHS) | |
| <ul style="list-style-type: none"> — H401: Toxic to aquatic life. | |

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

- arkema-thiochem-reach-uses@arkema.com
- **ICCA portal where the GPS Safety Summary is posted:**
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Date of Issues / Revision

- Date of issue: 2014/11/15
- Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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