

Chemical Safety Data Sheet MSDS / SDS

Diisopropylamine SDS

Revision Date:2024-04-25 Revision Number:1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name: Diisopropylamine

CAS: 108-18-9

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification**Classification of the substance or mixture**

Flammable liquids, Category 2

Acute toxicity - Category 4, Oral

Skin corrosion, Sub-category 1B
Acute toxicity - Category 4, Inhalation

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H332 Harmful if inhaled

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.

Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P370+P378 In case of fire: Use ... to extinguish.
P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
P317 Get medical help.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Diisopropylamine
Common names and synonyms:	Diisopropylamine
CAS number:	108-18-9
EC number:	203-558-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Inhalation of vapors causes irritation, sometimes with nausea and vomiting; can also cause burns to the respiratory system. Ingestion causes irritation of mouth and stomach. Vapor irritates eyes; liquid causes severe burn, like caustic. Contact with skin causes irritation. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal . Cover skin burns with dry sterile dressings after decontamination . /Organic bases/amines and related cmpds/

SECTION 5: Firefighting measures

Suitable extinguishing media

Use dry chemical, "alcohol resistant" foam, carbon dioxide, or water spray. Water may be ineffective. Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)

Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Wash away remainder with plenty of water. Do NOT wash away into sewer.

Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Wash away remainder with plenty of water. Do NOT wash away into sewer.

Methods and materials for containment and cleaning up

1. remove all ignition sources. 2. ventilate area of spill or leak. 3. for small quantities, absorb on paper towels. evaporate in safe place (such as fume hood). allow sufficient time for evaporating vapors to completely clear hood ductwork. burn paper in suitable location away from combustible materials. large quantities can be reclaimed or collected and atomized in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames, NO sparks and NO smoking. NO contact with oxidizing agents. Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and strong acids. Cool. Well closed. Keep in a well-ventilated room. Store in a cool, dry, well-ventilated location. Separate from acids; oxidizing material, plastics.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 5 ppm as TWA; (skin)

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles or eye protection in combination with breathing protection.

Skin protection

Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state: Diisopropylamine is a clear colorless liquid with an ammonia-like odor. Flash point 30°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used to make other chemicals.

Colour: Colorless liquid ...

Odour:	... Ammonia or fish-like odor.
Melting point/freezing point:	36°C(lit.)
Boiling point or initial boiling point and boiling range:	84°C(lit.)
Flammability:	Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Lower and upper explosion limit/flammability limit:	Lower flammable limit: 1.1% by volume; Upper flammable limit: 7.1% by volume
Flash point:	-13°C(lit.)
Auto-ignition temperature:	600° F (USCG, 1999)
Decomposition temperature:	no data available
pH:	Strongly alkaline
Kinematic viscosity:	0.40 cP @ 25 deg C
Solubility:	Slightly soluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow= 1.4
Vapour pressure:	50 mm Hg (20 °C)
Density and/or relative density:	0.716
Relative vapour density:	3.5 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces toxic fumes of nitrogen oxides. The substance is a strong base. It reacts with acid and is corrosive. Reacts with oxidants. This generates fire and explosion hazard. Attacks some forms of plastic.

Decomposes on heating and on burning. This produces toxic gases of nitrogen oxides. The solution in water is a medium strong base. Reacts with strong acids. Reacts violently with strong oxidants. This generates fire and explosion hazard.

Chemical stability

VOLATILE

Possibility of hazardous reactions

Flammable; severe fire hazardThe vapour is heavier than air and may travel along the ground; distant ignition possible.,Dust explosion possible if in powder or granular form, mixed with air.DIISOPROPYLAMINE can react violently with oxidizing agents and strong acids. Readily eutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.

Conditions to avoid

no data available

Incompatible materials

Strong oxidizers, strong acids.

Hazardous decomposition products

When heated to decomposition it emits toxic fumes of nitroxides.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Mouse oral 2,120 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

Lachrymation. The vapour is corrosive to the eyes and respiratory tract. Inhalation of the vapour may cause lung oedema. See Notes. Contact of the vapour with the eyes may cause visual disturbances. Exposure could cause death. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis.

Aspiration hazard

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

Diisopropylamine achieved 1% of the theoretical BOD over an incubation period of 5 days in an aerobic screening study at 20 deg C using sewage inoculum(1). In a second run of the same screening study using acclimated sewage seed, 43% of the theoretical BOD was achieved after 5 days(1). At an initial concn of 10 ppm diisopropylamine, 0% of the theoretical BOD was observed after an incubation period of 14 days in a screening study using sludge inoculum(2). In the same study using acclimated sludge inoculum, 31.5% of the theoretical BOD was observed after 15 days using the same initial concn of diisopropylamine(2). Furthermore, in the same study, initial concns of 50 and 100 ppm diisopropylamine appeared to be inhibitory to microbial growth(2).

Bioaccumulative potential

An estimated BCF of 2 was calculated for diisopropylamine(SRC), using a log Kow of 1.4(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of diisopropylamine was estimated as 140(SRC), using a log Kow of 1.4(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that diisopropylamine is expected to have high mobility in soil(SRC). The pKa of diisopropylamine is 11.07(4), indicating that the protonated form will be the predominant species in moist soils and cationic molecules generally adsorb to organic carbon and clays more strongly than their neutral counterparts(SRC).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN1158 (For reference only, please check.)
IMDG: UN1158 (For reference only, please check.)
IATA: UN1158 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: DIISOPROPYLAMINE (For reference only, please check.)
IMDG: DIISOPROPYLAMINE (For reference only, please check.)
IATA: DIISOPROPYLAMINE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)
IMDG: 3 (For reference only, please check.)
IATA: 3 (For reference only, please check.)

Packing group, if applicable

ADR/RID: II (For reference only, please check.)
IMDG: II (For reference only, please check.)
IATA: II (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No

IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

Other reported melting points: -91°C and -96°C . The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Disclaimer: 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. We as supplier shall not be held liable for any