

Chemical Safety Data Sheet MSDS / SDS

Hydrazobenzene 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: Hydrazobenzene

CAS: 122-66-7

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**Acute toxicity - Category 4, Oral
Carcinogenicity, Category 1B

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H302 Harmful if swallowed

H350 May cause cancer

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P203 Obtain, read and follow all safety instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P318 IF exposed or concerned, get medical advice.

P391 Collect spillage.

Storage

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: | Hydrazobenzene |
| Common names and synonyms: | Hydrazobenzene |
| CAS number: | 122-66-7 |
| EC number: | 204-563-5 |
| Concentration: | 100% |

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

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. Refer for medical attention .

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound may include irritation. **ACUTE/CHRONIC HAZARDS:** This compound is harmful if swallowed, inhaled or absorbed through the skin. It may cause irritation. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide and nitrogen oxides. (NTP, 1992)

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

Specific treatment for exposure consists of thorough washing of all exposed skin areas with soap and water, copious irrigation of the eyes, and prompt removal of the patient from the source of exposure. Hydrazines

SECTION 5: Firefighting measures

Suitable extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

Specific hazards arising from the chemical

Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)

Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

PRECAUTIONS FOR "CARCINOGENS": A high efficiency particulate arrester (HEPA) or charcoal filters can be used to minimize amt of carcinogen in exhausted air ventilated safety cabinets, lab hoods, glove boxes, or animal rooms ... Filter housing that is designed so that used filters can be transferred into plastic bag without contaminating maintenance staff is avail commercially. Filters should

be placed in plastic bags immediately after removal ... The plastic bag should be sealed immediately ... The sealed bag should be labelled properly ... Waste liquids ... should be placed or collected in proper containers for disposal. The lid should be secured & the bottles properly labelled. Once filled, bottles should be placed in plastic bag, so that outer surface ... is not contaminated ... The plastic bag should also be sealed & labelled. ... Broken glassware ... should be decontaminated by solvent extraction, by chemical destruction, or in specially designed incinerators. Chemical Carcinogens

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. 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 food and feedstuffs. Store in an area without drain or sewer access. PRECAUTIONS FOR "CARCINOGENS": Storage site should be as close as practicable to lab in which carcinogens are to be used, so that only small quantities required for ... expt need to be carried. Carcinogens should be kept in only one section of cupboard, an explosion proof refrigerator or freezer (depending on chemico-physical properties ...) that bears appropriate label. An inventory ... should be kept, showing quantity of carcinogen & date it was acquired ... Facilities for dispensing ... should be contiguous to storage area. Chemical Carcinogens

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

MAK: carcinogen category: 2

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 gloves. Protective clothing.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

| | |
|---|---|
| Physical state: | PHYSICAL DESCRIPTION: Orange powder or a bright orange crystalline solid. (NTP, 1992) |
| Colour: | Tablets from alcohol and ether |
| Odour: | no data available |
| Melting point/freezing point: | 270°C(lit.) |
| Boiling point or initial boiling point and boiling range: | 194°C(lit.) |
| Flammability: | Combustible. Gives off irritating or toxic fumes (or gases) in a fire. |
| Lower and upper explosion limit/flammability limit: | no data available |
| Flash point: | 91°C(lit.) |
| Auto-ignition temperature: | no data available |
| Decomposition temperature: | 125-131°C |

| | |
|--|--|
| pH: | no data available |
| Kinematic viscosity: | no data available |
| Solubility: | less than 0.1 mg/mL at 64° F (NTP, 1992) |
| Partition coefficient n-octanol/water: | log Kow= 2.94 |
| Vapour pressure: | 0.07mmHg at 25° C |
| Density and/or relative density: | 1.143g/cm ³ |
| Relative vapour density: | no data available |
| Particle characteristics: | no data available |

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic fumes including nitrogen oxides. Reacts with mineral acids. This produces benzidine (see ICSC 0224).

Chemical stability

Hydrazobenzene (10 µg/L) in dilute aqueous solution was found to be unstable with less than 10% remaining for longer than one day of preservation (in the dark) under any of the conditions tested (ie, room temperature or 4 deg C at pH 2,7, or 10 and with or without chlorine).

Possibility of hazardous reactions

1,2-DIPHENYLHYDRAZINE is a mild reducing agent. Incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides. Interaction with perchloryl fluoride in the presence of a diluent below 32° F has caused separation of explosive solids. Is readily oxidized by nitric acid, silver nitrate or permanganate. Is reduced under alkaline conditions (NTP, 1992).

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

SECTION 11: Toxicological information

Acute toxicity

Oral: no data available

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

CLASSIFICATION: B2; probable human carcinogen. BASIS FOR CLASSIFICATION: Positive results of studies in both rats and mice form the basis for this classification. Two apparently negative studies lack information on compound purity, experimental design, and statistical treatment. HUMAN CARCINOGENICITY DATA: None.

Reproductive toxicity

No information is available on the reproductive or developmental effects of 1,2-diphenylhydrazine in humans. In one study, no effects on reproductive organs were found in rats and mice exposed via ingestion.

STOT-single exposure

May cause mechanical irritation.

STOT-repeated exposure

This substance is probably carcinogenic to humans.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 *Lepomis macrochirus* (bluegill) 1.2 mg/L/24 hr (static bioassay, total water hardness 28-44 mg/L calcium carbonate, pH 6.7-7.4, oxygen concn 5.3-7.0 mg/L)

Toxicity to daphnia and other aquatic invertebrates: LC50 *Daphnia magna* (water flea) 8.1 mg/L/24 hr /Conditions of bioassay not specified

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

1,2-Diphenylhydrazine is degraded by sludge microorganisms(1). Using a static screening test, 1,2-diphenylhydrazine was inoculated with domestic wastewater and incubated for 7 days followed by 3 weekly subcultures (totaling 28 days of incubation); degradation of 1,2-diphenylhydrazine at 5 mg/l was reported as 80, 73, 66, and 77% for the original, first, second, and third subculture. Degradation of 1,2-diphenylhydrazine at 10 mg/l was reported as 72, 55, 40, and 40% for the original, first, second, and third subculture(2). This pattern was believed to indicate a process of initially significant degradation with gradual adaptation followed by a deadaptive process(2).

Bioaccumulative potential

The weighted average bioconcentration factor for 1,2-diphenylhydrazine was reported to be 29 for the edible portions of fish and shellfish consumed by Americans(1). According to a classification scheme(2), this BCF value suggests that bioconcentration in aquatic organisms is low(SRC)

Mobility in soil

The Koc of 1,2-diphenylhydrazine is estimated as approximately 950(SRC), using a measured log Kow of 2.94(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that 1,2-diphenylhydrazine has low mobility in soil(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: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)
IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)
IMDG: 9 (For reference only, please check.)
IATA: 9 (For reference only, please check.)

Packing group, if applicable

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

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

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)

Not Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Not 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

Do NOT take working clothes home. Depending on the degree of exposure, periodic medical examination is suggested.

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