HYDRAZINE HYDRATE  
CAS NO 7803-57-8

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

1.1 Product identifiers
   Product name : Hydrazine Hydrate
   CAS-No. : 7803-57-8

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
   Company : Central Drug House (P) Ltd
   7/28 Vardaan House
   New Delhi -110002
   INDIA
   Telephone : +91 11 49404040
   Email : care@cdhfinechemical.com

1.4 Emergency telephone number
   Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification according to Regulation (EC) No 1272/2008
   Acute toxicity, Oral (Category 3), H301
   Acute toxicity, Inhalation (Category 2), H330
   Acute toxicity, Dermal (Category 3), H311
   Skin corrosion (Category 1B), H314
   Skin sensitisisation (Category 1), H317
   Carcinogenicity (Category 1B), H350
   Acute aquatic toxicity (Category 1), H400
   Chronic aquatic toxicity (Category 1), H410

   For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
   Labelling according Regulation (EC) No 1272/2008
   Pictogram

   Signal word : Danger
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms : Hydrazinium hydroxide

Formula : \( \text{N}_2\text{H}_4 \cdot \text{H}_2\text{O} \)

Molecular weight : 50.06 g/mol

CAS-No. : 7803-57-8

EC-No. : 206-114-9

Index-No. : 007-008-00-3

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component | Classification | Concentration |
--- | --- | --- |
Hydrazine monohydrate | Acute Tox. 3; Acute Tox. 2; | <= 100 %
| Acute Tox. 3; Skin Corr. 1B; | Skin Sens. 1; Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H301, H330, H311, H314, H317, H350, H400, H410 |

Concentration limits:

>= 10 %: Skin Corr. 1B, H314; 3 - < 10 %: Skin Irrit. 2, H315; 3 - < 10 %: Eye Irrit. 2, H319; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10

For the full text of the H-Statements mentioned in this Section, see Section 16.
SECTION 4: First aid measures

4.1 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
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. 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.

4.2 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

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture
Nature of decomposition products not known.

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 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.
Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). 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.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee 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
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid, clear
   Colour: colourless

b) Odour No data available

c) Odour Threshold No data available

d) pH 10.6 - 10.7 at 10 g/l
e) Melting point/freezing point  Melting point/range: -51.7 °C - lit.
f) Initial boiling point and boiling range  120.1 °C - lit.
g) Flash point  74 °C  
h) Evaporation rate  No data available
i) Flammability (solid, gas)  No data available
j) Upper/lower flammability or explosive limits  No data available
k) Vapour pressure  5 mmHg at 25 °C
l) Vapour density  No data available
m) Relative density  1.032 g/cm3 at 25 °C
n) Water solubility  completely soluble
o) Partition coefficient: n-octanol/water  No data available
p) Auto-ignition temperature  No data available
q) Decomposition temperature  > 250 °C -
r) Viscosity  No data available
s) Explosive properties  Not explosive
t) Oxidizing properties  No data available

9.2 Other safety information
Solubility in other solvents  Ethanol - soluble

SECTION 10: Stability and reactivity

10.1 Reactivity  No data available

10.2 Chemical stability  Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions  No data available

10.4 Conditions to avoid  Heat, flames and sparks.

10.5 Incompatible materials  Oxidizing agents, Oxygen, Copper, Organic materials, Zinc

10.6 Hazardous decomposition products  Other decomposition products - No data available
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.
In the event of fire: see section 5
SECTION 11: Toxicological information

11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - 108 mg/kg (Hydrazine monohydrate)
LC50 Inhalation - Rat - 4 h - 0.75 mg/l (Hydrazine monohydrate)

**Skin corrosion/irritation**
Extremely corrosive and destructive to tissue. (Hydrazine monohydrate)

**Serious eye damage/eye irritation**
No data available (Hydrazine monohydrate)

**Respiratory or skin sensitisation**
May cause sensitisation by skin contact. (Hydrazine monohydrate)

**Germ cell mutagenicity**
Laboratory experiments have shown mutagenic effects. (Hydrazine monohydrate)

**Carcinogenicity**
This product is or contains a component that has been reported to be proba EPA classification. (Hydrazine monohydrate)
Possible human carcinogen (Hydrazine monohydrate)
IARC: 2B - Group 2B: Possibly carcinogenic to humans (Hydrazine monohydrate)

**Reproductive toxicity**
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. (Hydrazine monohydrate)

**Specific target organ toxicity - single exposure**
No data available (Hydrazine monohydrate)

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available (Hydrazine monohydrate)

**Additional Information**
Repeated dose toxicity - Rat - Oral - No observed adverse effect level - 1.92 mg/kg (Hydrazine monohydrate)
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated:
CNS stimulation., Cyanosis, Salivation, Seizures., Diarrhoea, Fever, Confusion., Hypoglycemia, Anorexia.,
Convulsions, Coma. (Hydrazine monohydrate)
Liver - Irregularities - Based on Human Evidence (Hydrazine monohydrate)

SECTION 12: Ecological information

12.1 Toxicity

**Toxicity to fish**
LC50 - Leuciscus idus melanotus - 0.75 mg/l - 48.0 h (Hydrazine monohydrate)

**Toxicity to daphnia and other aquatic invertebrates**
NOEC - Daphnia magna (Water flea) - 0.01 mg/l - 21 d (Hydrazine monohydrate)

Liver - Irregularities - Based on Human Evidence (Hydrazine monohydrate)
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12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available(Hydrazine monohydrate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and
toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2030
IMDG: 2030
IATA: 2030

14.2 UN proper shipping name
ADR/RID: HYDRAZINE, AQUEOUS SOLUTION
IMDG: HYDRAZINE, AQUEOUS SOLUTION
IATA: HYDRAZINE, AQUEOUS SOLUTION

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)
ADR/RID: 8 (6.1)
IMDG: 8 (6.1)
IATA: 8 (6.1)

14.4 Packaging group
ADR/RID: II
IMDG: II
IATA: II

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Authorisations and/or restrictions on use

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H301       Toxic if swallowed.
H301 + H311 Toxic if swallowed or in contact with skin
H311       Toxic in contact with skin.
H314       Causes severe skin burns and eye damage.
H315       Causes skin irritation.
H317       May cause an allergic skin reaction.
H319       Causes serious eye irritation.
H330       Fatal if inhaled.
H350       May cause cancer.
H400       Very toxic to aquatic life.
H410       Very toxic to aquatic life with long lasting effects.

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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.