

Material Safety Data Sheet

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Version 1.1

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	HYDRAZINE MONOHYDROCHLORIDE, 97%
Product Number	216194
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154
Technical Phone #	+61 2 9841 0555 (1800 800 097)
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Emergency Phone #	+44 8701906777 (1800 448 465)

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
HYDRAZINE MONOHYDROCHLORIDE	2644-70-4	220-154-4	None
Formula	H ₂ NNH ₂ .HCl		
Molecular Weight	68.51 AMU		
Synonyms	Hydrazine monochloride * Hydrazinium chloride * Hydrazinium monochloride		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Causes burns. Toxic if swallowed. May cause sensitization by skin contact. Limited evidence of a carcinogenic effect.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY

Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air.

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	

MP/MP Range	89 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

10 - Stability and Reactivity

STABILITY

Materials to Avoid: Oxidizing agents, Bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nitrogen oxides, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: MV4625000

ACUTE TOXICITY

LD50

Oral

Rat

128 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Intraperitoneal

Rat

126 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Intravenous

Rat

118 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Oral

Mouse

126 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Intraperitoneal

Mouse

133 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Intravenous

Mouse

122 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.

LD50

Intravenous

Dog

53 MG/KG

Remarks: Behavioral:Convulsions or effect on seizure threshold.

SENSITIZATION

Sensitization: May cause allergic reaction.

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Can cause CNS depression. May cause convulsions. Exposure can cause: Damage to the liver. Damage to the kidneys. Damage to the lungs.

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be toxic in contact with skin.

Eye Contact: Causes burns.

Inhalation: May be toxic by inhalation. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

TARGET ORGAN INFORMATION

Damage to the liver. Damage to the kidneys. Damage to the lungs. Nerves. Blood.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTAGEN

Mouse

200 MG/KG

Intraperitoneal

96H

Micronucleus test

Mouse

80 MG/KG
Intraperitoneal
specific locus test

Hamster
500 UMOL/L
Cell Type: lung
Sister chromatid exchange

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2923
Class: 8
PG: II
Proper Shipping Name: Corrosive solid, toxic, n.o.s.

IMDG

UN#: 2923
Class: 8
PG: II
Subrisk: 6.1
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA

UN#: 2923
Class: 8
PG: II
Subrisk: 6.1
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T
Toxic.

R-PHRASES: 34 25 43 40

Causes burns. Toxic if swallowed. May cause sensitization by skin contact. Limited evidence of a carcinogenic effect.

S-PHRASES: 45 26 28 27 36

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with

plenty of water. Take off immediately all contaminated clothing. Wear suitable protective clothing.

16 - Other Information

WARRANTY

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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