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Material Safety Data Sheet
HYDRAZINE HYDRATE 80%

Section 1 - Product Identification

Synonyms : Hydrazinium hydroxide
Molecular Weight : 50.061 g/mol
Chemical Formula : N_2H_4O
Company Identification : Tradeasia International Pte. Limited
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Recommended use of the chemical and restrictions on use
The product is used in industrial manufacturing, in particular in :

- Ceramics
- Detergent
- Borosilicate glass
- Insulation fiberglass

Section 2 – Composition/Information on Ingredients

The product contains greater than 99.9 percent (%) hydrazine hydrate-

Chemical Name	EC No/CAS No	Purity, %
Hydrazine hydrate	7803-57-8	min. 99.9

Section 3 – Hazards Identification

3.1 Classification of the substance according to GHS
Reproductive toxicant, Category 2
H 361d : Suspected of damaging the unborn child
Eye irritant 2A
H319: Causes serious eye irritation.
Acute Oral 5
H303: Harmful if swallowed.
3.2. GHS Label elements, including precautionary statements

 Warning H 361d: Suspected of damaging the unborn child. H303: May be harmful if swallowed.	 Warning H319: Causes serious eye irritation.

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.

P264: Wash eyes thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P313: If exposed or concerned: get medical advice/attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P312: Call a POISON CENTER/doctor/physician if you feel unwell
P405 : Store locked up.

3.3. Other hazards which do not result in classification

Hydrazine hydrate is a colorless liquid with an ammonia-like odour, and is considered to be toxic. It must be handled with utmost care.

Potential health effects

Inhalation is the most significant route of exposure in occupational and other settings.

Inhalation

Occasional mild irritation effects to nose and throat may occur from inhalation.

Eye contact

It is a serious eye irritant.

Skin contact

It causes irritation on the skin.

Ingestion

Products containing hydrazine hydrate are not intended for ingestion. It has low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

Potential ecological effects

Large amounts of hydrazine hydratecan be harmful to plants and other species. Therefore releases to the environment should be minimised.

Signs and symptoms of exposure

Symptoms of accidental over-exposure to hydrazine hydrate have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling.

Refer to section 11 for details on Toxicological data.

Section 4 – First-Aid Measures

4.1. Description of first aid mesaures

Skin contact

Wash skin immediately. Consult doctor.

Eye contact

Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

Inhalation

If symptoms such as nose or throat irritation are observed, remove to fresh air.

Ingestion

If large amounts are swallowed (i.e. more than one teaspoon), contact a doctor or toxicity centre immediately.

4.2. Most important symptoms and effects, both acute and delayed

N.A.

4.3. Indication of any immediate medical attention and special treatment needed
N.A.

Section 5 – Fire Fighting Measures

5.1. Suitable Extinguishing media
Any fire extinguishing media may be used on nearby fires.
5.2. Specific hazards arising from the chemical
Hydrazine hydrate is flammable, combustable or explosive.
5.3. Special protective actions for fire-fighters
N.A.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Avoid dust formation. In case of exposure to prolonged or high level of airborne dust, wear a personal respirator in compliance with national legislation.
6.2. Environmental precautions
Hydrazine hydrate is a water-solubler that may, at high concentrations cause damage to trees or vegetation by root absorption (see section 12).
6.3. Methods and material for containment and cleaning up
Land spill)
Vacuum, shovel or sweep up and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.
Spillage into water
Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the value to its normal environmental background level (see sections 12, 13 and 15).

Section 7 – Handling and Storage

7.1. Precautions for safe Handling
To maintain package integrity and to minimise caking of the product, bags should be handled on a first-in first out basis. Good housekeeping and dust prevention procedures should be followed to minimise dust generation and accumulation. Your supplier can advise you on safe handling, please contact the supplier.
The product should be kept away from strong reducing agents. Apply above handling advice when mixing with other substances.
7.2. Conditions for safe storage, including any incompatibilities
No special handling precautions are required, but dry, indoor storage is recommended. No specific requirements. Provide appropriate ventilation and store bags such as to prevent any accidental damage.

Section 8 – Exposure Controls/Personal Protection

8.1. Control parameters
Occupational exposure limits for dust (total and respirable). are treated by OSHA, Cal OSHA and ACGIH as “Particulate Not Otherwise Classifed” or “Nuisance Dust”
ACGIH/TLV 10 mg/m^3
Cal OSHA/PEL 10 mg/m^3
OSHA/PEL (total dust) 15 mg/m^3
OSHA/PEL (respirable dust) 5 mg/m^3
8.2. Appropriate engineering controls
Maintain air concentrations below occupational exposure standards.

8.3. Individual protection measures, such as personal protective equipment (PPE)
Respiratory protection
In case of prolonged exposure to dust wear a personal respirator in compliance with national legislation (make reference to the appropriate CEN standard)
Eyes and hands protection
Goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties
Appearance : Colorless liquid
Odour : Ammonia-like
Odour threshold : N.A.
pH @ 20°C : N.A.
Melting point : -57°C
Boiling point : 117 °C
Flash point : Highly flammable
Evaporation rate : N.A.
Flammability : N.A.
Upper/lower flammability or explosive limits : N.A.
Vapour pressure : Negligible @ 20°C
Vapour density : N.A.
Relative density : 1.1
Solubility in water : Miscible
Partition coefficient: n-octanol/water : N.A
Auto-ignition temperature : N.A.
Decomposition temperature : H_2O @ 120°C
Viscosity : N.A.
9.2. Other information
Molecular weight : 50.061
Specific gravity : 1.028 @ 20°C

Section 10 – Stability and Reactivity

10.1. Reactivity
N.A.
10.2. Chemical stability
Flammable liquid and vapour. May form flammable/explosive vapour-air mixture.
10.3. Possibility of hazardous reactions
N.A.
10.4. Conditions to avoid:
N.A.
10.5. Incompatible materials
Avoid contact with strong reducing agents such as metal hydrides, acetic anhydride or alkali metals.
10.6. Hazardous decomposition products
N.A.

Section 11 – Toxicological Information

11.1. Information on toxicological effect
11.1.1. Substances
Acute toxicity[2]
Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.
Skin corrosion / irritation
Causes severe skin burns and eye damage
Serious eye damage/ irritation
It is a serious eye irritant.
Respiratory or skin sensitization
May cause an allergic skin reaction
Germcell mutagenicity
N.A.
Carcinogenicity
It may be carcinegenic
Reproductive toxicity
N.A.
STOT-single exposure
N.A.
STOT-repeated exposure
N.A.
Aspiration Hazard
N.A.

Section 12 – Ecological Information

12.1.Toxicity
Very toxic to aquatic life with long lasting effects.
Phytotoxicity
N.A.
Algal toxicity[9]
N.A.
Invertebrate toxicity[10]
N.A.
Fish toxicity[11]
N.A.

12.2. Persistence and degradability
N.A.
12.3. Bioaccumulative potential
N.A.
12.4. Mobility in soil
N.A.

12.5. Other adverse effects
No Data Available

Section 13 – Disposal Considerations

13.1. Disposal methods

Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.Handle empty containers with care because residual vapours are flammable.

Section 14 – Transport Information

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14.1. UN number : 2030
14.2. UN proper shipping name : N.A
14.3. Transport of hazard classes : N.A
14.4. Packing group : N.A
14.5. Environmental hazards : N.A.
14.6. Special precautions for user : N.A
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: N.A.

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations

No REACH Annex XVII restrictions HYDRAZINE HYDRATE 80%. Extra Pure is not on the REACH Candidate List HYDRAZINE HYDRATE 80% Extra Pure is not on the REACH Annex XIV List.

Section 16 : Additional Information

16.1. Mainly changes made to the previous version of this Material Safety Data Sheet (MSDS):

• This MSDS complies with ISO 11014; the requirements of UN-GHS

Revision No	Revision content
05	• This SDS is updated in accordance with the GHS (Rev.6) (2015)-Guidance on the Compilation of Safety data Sheets. • This SDS is updated in line with Eti Maden Corporate identity.

16.2. List of abbreviation and acronyms used in this MSDS

SDS : Safety Data Sheets
Index N° : atomic number of the element most characteristic of the properties of the substance
CAS No : Chemical Abstracts Service number
EC No : EINECS Number : European Inventory of Existing Commercial Substances
Repr. Cat. 2 : Substance presumed human reproductive toxicant
Acute Oral Cat. 5 : Substance which is of relatively low acute oral toxicity.
GHS : Globally Harmonised System of Classification and Labelling
LD_{50} : Median Lethal Dose
LC_{50} : Lethal Concentration, 50%
N.A. : Not Applicable
OSHA : Occupational Safety & Health Administration
Cal OSHA : The State of California Division of Occupational Safety and Health (DOSH)
PEL : Permissible Exposure Limits
ACGIH : American Conference of Governmental Industrial Hygienists
TLV : Threshold Limit Value
Japanese MITI : Japanese Ministry of International Trade and Industry
EC_{50} : Half maximal effective concentration
UN : United Nations

U.S. EPA TSCA Inventory: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the autority of the Environmental Protection Agency
Canadian DSL: Canadian Domestic Substances List

16.3. List of relevant hazard statements and precautionary statements used in this MSDS

Hazard Statement

H361 d: Suspected of damaging the unborn child
H319: Causes serious eye irritation
H303: May be harmful if swallowed

Precautionary Statements

Prevention

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P264: Wash eyes thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P308 + P313: If exposed or concerned: get medical advice/attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container to in accordance with local regulations.

16.4. References

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