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MATERIAL SAFETY DATA SHEET (MSDS)

HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
 Product code : H0108300500
 Identification of the product : HYDRAZINE DIHYDROCHLORIDE EXTRA PURE 99%
 CAS No: 5341-61-7

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM
 Chaitanya Tower, 2nd Floor, Office # 206,
 Siddharth Nagar, S.V. Road,
 Goregaon (West), Mumbai - 400062,
 Maharashtra, India.
 Contact: +91 22 28725393 / 94 / 95
 Email ID: info@suvchem.com/care@suvchem.com

1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours]

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification : T; R23/24/25
 R43
 N; R50-53

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Skin sensitisation - Category 1 - Warning (CLP : Skin Sens. 1) H317
 Environmental hazards : Hazardous to the aquatic environment - Acute hazard - Category 1 - Warning (CLP : Aquatic Acute 1) H400
 Hazardous to the aquatic environment - Chronic hazard - Category 1 - Warning (CLP : Aquatic Chronic 1) H410

2.2. Label elements

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
2. Hazards identification -DSD (continued)
Labelling EC 67/548 or EC 1999/45
Symbol(s)

Symbol(s)

 : T : Toxic
 N : Dangerous for the environment

R Phrase(s)

: R45 : May cause cancer.

R43 : May cause sensitization by skin contact.

R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrase(s)

 :
 S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).
 S60 : This material and its container must be disposed of as hazardous waste.
 S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.

Labelling Regulation EC 1272/2008 (CLP)
Hazard pictograms

Signal words

: Warning

Hazard statements

 : H317 : May cause an allergic skin reaction.
 H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statements
• Prevention

 : P280: Wear protective gloves, protective clothing, eye protection, face protection.
 P261: Avoid breathing dust, fume, gas, mist, vapours, spray.
 P273: Avoid release to the environment.
 P272: Contaminated work clothing should not be allowed out of the workplace.

• Response

 : P302+P352: IF ON SKIN : Wash with plenty of soap and water.
 P391: Collect spillage.
 P333+P313: If skin irritation or rash occurs : Get medical advice.
 P363: Wash contaminated clothing before reuse.

• Disposal considerations

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
2. Hazards identification -DSD (continued)

Other hazards : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation : HYDRAZINE DIHYDROCHLORIDE EXTRA PURE 99%

Substance.

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures
4.1. Description of first aid measures

Inhalation : Assure fresh air breathing. Allow the victim to rest.

Skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Get medical advice. Specific treatment (see on this label). If skin irritation or rash occurs : Wash with plenty of soap and water. Wash contaminated clothing before reuse.

Eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

Ingestion : Obtain emergency medical attention. Do NOT induce vomiting. Rinse mouth.

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

Symptoms relating to use : May cause an allergic skin reaction.

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

General information : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures
5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

Surrounding fires : Use water spray or fog for cooling exposed containers.

5.2. Special hazards arising from the substance or mixture

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
5. Fire-fighting measures (continued)

Hazardous combustion products : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

Protection against fire : Do not enter fire area without proper protective equipment, including respiratory protection.

Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection. Ventilate area.

For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Clean up methods : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See section 8. Exposure controls/personal protection

7. Handling and storage
7.1. Precautions for safe handling

Handling : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Avoid breathing dust, fume, gas, mist, vapours, spray. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

Technical protective measures : Provide good ventilation in process area to prevent formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
7. Handling and storage (continued)

Storage : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection
8.1. Exposure controls

Personal protection : Avoid all unnecessary exposure.

- **Respiratory protection** : Wear approved mask.
- **Hand protection** : Wear protective gloves.
- **Eye protection** : Chemical goggles or safety glasses.
- **Others** : When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits : No data available.

9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state at 20 °C : Solid.

Colour : White crystalline

Odour : N/A

Odour threshold : No data available.

pH value : Not applicable.

Melting point [°C] : 200 °C

Decomposition point [°C] : N/A

Critical temperature [°C] : N/A

Auto-ignition temperature [°C] : N/A

Flammability (solid, gas) : N/A

Flash point [°C] : N/A

Boiling point [°C] : 2000C

Initial boiling point [°C] : N/A

Final boiling point [°C] : N/A

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
9. Physical and chemical properties (continued)

| | |
|--|----------------------|
| Evaporation rate | : N/A |
| Vapour pressure [20°C] | : N/A |
| Vapour pressure mm/Hg | : N/A |
| Vapour density | : N/A |
| Density [g/cm ³] | : 1,42 |
| Relative density, gas (air=1) | : N/A |
| Relative density, liquid (water=1) | : N/A |
| Solubility in water [% weight] | : Freely soluble |
| Solubility in water | : N/A |
| Log Pow octanol / water at 20°C | : No data available. |
| Solubility | : N/A |
| Viscosity at 40°C [mm ² /s] | : N/A |

9.2. Other information

| | |
|------------------------------|----------------------|
| Explosive properties | : N/A |
| Explosion limits - upper [%] | : N/A |
| Explosion limits - lower [%] | : N/A |
| Oxidising properties | : No data available. |

10. Stability and reactivity
10.1. Reactivity

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|------------|--------------------|
| Reactivity | : Not established. |
|------------|--------------------|

10.2. Chemical stability

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|--------------------|--|
| Chemical stability | : Stable under recommended storage conditions. |
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10.3. Possibility of hazardous reactions

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|---------------------|--------------------|
| Hazardous reactions | : Not established. |
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10.4. Conditions to avoid

| | |
|---------------------|--|
| Conditions to avoid | : Direct sunlight. Extremely high or low temperatures. |
|---------------------|--|

10.5. Incompatible materials

| | |
|--------------------|-------------------------------|
| Materials to avoid | : Strong acids. Strong bases. |
|--------------------|-------------------------------|

10.6. Hazardous decomposition products

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
10. Stability and reactivity (continued)

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide.

11. Toxicological information
11.1. Information on toxicological effects
Acute toxicity

- **Inhalation** : Based on available data, the classification criteria are not met.
- **Dermal** : Based on available data, the classification criteria are not met.
- **Ingestion** : Based on available data, the classification criteria are not met.

Corrosion : Based on available data, the classification criteria are not met.

Irritation : Based on available data, the classification criteria are not met.

Sensitization : May cause an allergic skin reaction.

Mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.

Toxic for reproduction : Based on available data, the classification criteria are not met.

STOT-single exposure : Based on available data, the classification criteria are not met.

STOT-repeated exposure : Based on available data, the classification criteria are not met.

Aspiration hazard : Based on available data, the classification criteria are not met.

12. Ecological information
12.1. Toxicity

Toxicity information : Very toxic to aquatic life with long lasting effects.

12.2. Persistence - degradability

Persistence - degradability : May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

MATERIAL SAFETY DATA SHEET (MSDS)
HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)
12. Ecological information (continued)
12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations
13.1. Waste treatment methods

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
 Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

14. Transport information
14.1. Land transport (ADR-RID)

UN N° : 3288
 H.I. nr : 60
 ADR - Class : 6.1
 Labelling - Transport : 6.1 : Toxic substances.



ADR - Classification code : T2
 ADR - Group : III

14.2. Sea transport (IMDG) [English only]

UN N° : 3288
 IMO-IMDG - Class or division : 6.1 : Toxic substances.
 IMO-IMDG - Packing group : III

14.3. Air transport (ICAO-IATA) [English only]

UN N° : 3288
 IATA - Class or division : 6.1 : Toxic substances.
 IATA - Packing group : III

MATERIAL SAFETY DATA SHEET (MSDS)

HYDRAZINE HYDROCHLORDE (HYDRAZINE DIHYDROCHLORIDE)

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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