

Safety Data Sheet

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **Hydrazine hydrate solution 35% in water**
Product Code 044325
CAS Number 302-01-2
Other Names
IUPAC
MFCD Number MFCD00149931
EC/EINECS 206-114-9
REACH Number

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

Research and Development

1. Classification of the substance or mixture

H301	Acute Tox. 3	R25
H314	Skin Corr. 1B	R34
H317	Skin Sens. 1	R43
H331	Acute Tox. 3	R23, R23
H350	Carc. 1B	R45, R49
H410	Aquatic Chronic 1	

* The risk codes have been generated using Annex VII of directive 67/548/EEC. Risk code combinations are not included.

2. Label elements

Signal Word **Danger**



Hazard Statements

H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H350	May cause cancer .
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Phrases

P201	Obtain special instructions before use.
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P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Hydrazine hydrate solution 35% in water

Assay:100% CAS Number :302-01-2

2. Mixtures

Not Relevant

4. First Aid Measures

1. Description of first aid measures

<i>Skin Contact</i>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
<i>Eye Contact</i>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<i>Ingestion</i>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
<i>Inhalation</i>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

2. Most important symptoms and effects

There may be pain and redness.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

Suitable Carbon dioxide.
Dry chemical powder.
Alcohol or polymer foam.
Use water spray to cool containers.

Unsuitable no data

2. Special Hazards arising from the substance or mixture

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
In combustion emits toxic fumes of nitrogen oxides.
In combustion emits toxic fumes of hydrogen chloride / phosgene.
In combustion emits toxic fumes of hydrogen bromide.

3. Advice for Fire Fighters

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

6. Accidental Release Measures

1. Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.
Evacuate the area immediately.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.
Avoid all incompatible materials in clean-up procedure. See section 10 of SDS.

7. Handling and Storage

1. Personal Precautions

<i>Safe Handling</i>	Ensure there is sufficient ventilation of the area. Avoid release to the environment. Do not eat, drink or smoke when using this product. Obtain special instructions before use. <Manufacturer/supplier to specify applicable ignition source(s).> Wash handsoroughly after handling.
<i>Protection against explosions and fires</i>	Wash contaminated clothing before reuse. normal measures for preventive fire protection

2. Conditions for safe storage, including any incompatibilities

<i>Managing Storage Risks</i>	Store in cool, well ventilated area. Keep container tightly closed. Keep away from direct sunlight.
<i>Storage Controls</i>	No special requirements
<i>Maintaining Integrity</i>	Store away from oxidising agents Keep in tightly closed container in cool area away from direct sunlight or heat sources.
<i>Other advice</i>	no further information available

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

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2.Exposure Controls

<i>General protective and hygiene measures</i>	Wear protective gloves/protective clothing/eye protection/face protection. . Wash hands during breaks and at the end of handling the material Immediately remove any contaminated clothing
<i>Engineering measures</i>	Ensure there is sufficient ventilation of the area.
<i>Eye / Face Protection</i>	Safety Glasses with side-shields.
<i>Hand protection</i>	Protective gloves.
<i>Respiratory protection</i>	Do not breathe dust/fume/gas/mist/vapours/spray. . Use breathing protection with high concentrations
<i>Skin protection</i>	Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Wash and dry hands. Protective clothing.
<i>Other personal protection advice</i>	no data

9.Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Clear colourless liquid
Odour	Not Applicable
Odour threshold	Not Applicable
PH	Not Applicable
Melting point / Freezing point	Not Applicable
Initial boiling point and boiling range	Not Applicable
Flash point	Not Applicable
Evaporation rate	Not Applicable
Flammability(solid,gas)	Not Applicable
Upper/lower flammability or explosive limits	99.99 %(V) / 3.5 %(V)
Vapour pressure	7 hPa at 25 °C
Vapour density	Not Applicable
Relative density	1.011 g/cm ³ at 25 °C
Solubility(ies):	Not Applicable
Partition coefficient: n-octanol/water	Not Applicable
Auto-ignition temperature	Not Applicable
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Explosive properties	Not Applicable
Oxidising properties	Not Applicable

2.Other Information

No additional information available

10.Stability and Reactivity

1.Reactivity

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no unusual reactivity

2.Stability

Stable under normal conditions.

3.Possibility of Hazardous Reactions

no hazardous reactions known

4.Conditions to Avoid

no specific conditions to avoid

5.Incompatible Materials

Oxidising agents.
Acids.
Zinc,
Organic materials,
Oxygen,
Copper

6.Hazardous Decomposition Products

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

11.Toxicology information

1.Information

<i>Acute Toxicity</i>	no data
<i>Skin corrosion/irritation</i>	caustic for skin and mucous membranes irritant for skin and mucous membranes
<i>Serious eye Damage/irritation</i>	strong caustic effect. irritant effect
<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	not known
<i>Carcinogenicity</i>	2B - Group 2B: Possibly carcinogenic to humans (Hydrazine)
<i>Reproductive toxicity</i>	not known
<i>STOT-single exposure</i>	not known
<i>STOT-repeated exposure</i>	not known
<i>Aspiration hazard</i>	not known

2.Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC,NTP,OSHA or ACGIH
swallowing will lead to a strong caustic effect on mouth and throat and the danger of perforation of oesophagus and stomach.

12.Ecological Information

1.Toxicity

not known

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2.Persistence and degradability

not known

3.Bio-Accumulative Potential

not known

4.Mobility and Soil

not known

5.Results of PBT & vPvB assessment

not known

6.Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

13.Disposal Considerations

1.Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 3293
2. **UN proper shipping name:** Hydrazine, aqueous solution with 37% or less hydrazine, by weight
3. **Transport hazard class(es):** Class: 6.1 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 3293
2. **UN proper shipping name:** HYDRAZINE, AQUEOUS SOLUTION with not more than 37% hydrazine, by mass
3. **Transport hazard class(es):** Class: 6.1 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

Safety Data Sheet

1. **UN Number:** 3293
2. **UN proper shipping name:** Hydrazine, aqueous solution
with 37% or less hydrazine, by weight
3. **Transport hazard class(es):** Class: 6.1 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: IBC03

UNTANKINS: T4
TANKPROV: TP1

15. Safety, health and environmental regulations

1. Safety, health and environmental regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by road)

RID: Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service

2. Associated risk phrases according to european directive 67/548/EEC

R23	Toxic by inhalation.
R25	Toxic if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R49	May cause cancer by inhalation.

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.