

Material Safety Data Sheet

Version 3.0
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Hydrazine solution

Product Number : 309400
Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
OAKVILLE ON L6H 6J8
CANADA

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : H_4N_2

CAS-No.	EC-No.	Index-No.	Concentration
Hydrazine			
302-01-2	206-114-9	007-008-00-3	35 %
Water			
7732-18-5	231-791-2	-	65 %

3. HAZARDS IDENTIFICATION**Emergency Overview****Target Organs**

Nerves., Blood, Liver, Kidney, Lungs

WHMIS Classification

D1A	Very Toxic Material Causing Immediate and	Highly toxic by skin absorption
D1B	Serious Toxic Effects	Highly toxic by inhalation
D2A		Toxic by ingestion
D2B		Carcinogen
E		Skin sensitiser
		Corrosive

HMIS Classification

Health hazard: 4
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Causes skin burns. May be fatal if absorbed through skin.
Eyes	Causes eye burns.
Ingestion	Toxic if swallowed. Causes burns.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

Continue rinsing eyes during transport to hospital. 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.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point no data available

Ignition temperature no data available

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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.

Methods for cleaning up

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

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Normal measures for preventive fire protection.

Storage

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Hydrazine	302-01-2	TWA	0.01 ppm	2006-11-29	Canada. British Columbia OEL
Remarks	IARC "2B" applies to substances deemed possibly carcinogenic to humans. Contributes significantly to the overall exposure by the skin route.				
		TWAE V	0.01 ppm	2005-12-17	Canada. Ontario OELs
	Skin				
		TWA	0.01 ppm 0.013 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin				
		TWAE V	0.1 ppm 0.13 mg/m3	2006-12-29	Canada. Quebec OELs
	A substance which may not be recirculated in accordance with section 108 A substance to which exposure must be reduced to a minimum in accordance with section 42 Skin (percutaneous) Carcinogenic effect suspected in humans				

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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).

Hand protection

Handle with gloves.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form liquid

Safety data

pH	no data available
Melting point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	3.5 %(V)
Upper explosion limit	99.99 %(V)
Vapour pressure	7 hPa (5 mmHg) at 25 °C (77 °F)
Density	1.011 g/cm ³
Water solubility	no data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Zinc, Oxidizing agents, Organic materials, Oxygen, Copper

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO_x)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Hydrazine)

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea

Potential Health Effects

Inhalation	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
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Skin	Causes skin burns. May be fatal if absorbed through skin.
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Target Organs	Nerves., Blood, Liver, Kidney, Lungs,

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. 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.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 3293 Class: 6.1 Packing group: III
 Proper shipping name: Hydrazine, aqueous solution
 Reportable Quantity (RQ): 3 lbs
 Marine pollutant: No
 Poison Inhalation Hazard: No

IMDG

UN-Number: 3293 Class: 6.1 Packing group: III EMS-No: F-A, S-A
 Proper shipping name: HYDRAZINE, AQUEOUS SOLUTION
 Marine pollutant: No

IATA

UN-Number: 3293 Class: 6.1 Packing group: III
 Proper shipping name: Hydrazine, aqueous solution

15. REGULATORY INFORMATION

DSL Status

All components of this product are on the Canadian DSL list.

WHMIS Classification

D1A	Very Toxic Material Causing Immediate and	Highly toxic by skin absorption
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E		Skin sensitiser

Corrosive

16. OTHER INFORMATION

Further information

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