

## HYDRAZINE HYDRATE

### Point 1. Chemical Product and Company Identification

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Chemical Product : Hydrazine Hydrate  
 Formula :  $H_6 N_2O$   
 Name of Manufacturing Company : M/s. Gujarat Alkalies & Chemicals Ltd. P.O. Dahej, Tal – Vagara, Dist. Bharuch. Pin Code No. 392130 State – Gujarat, India. Telephone No. 0997989128-29 / 8511541534-35-36 – [02641] - 256315-17, 256325, 256335. Fax No. 02641-256220.

### Point 2. Composition, Information on Ingredients

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Hydrazine Hydrate :  $H_6 N_2O$  CAS No. : 7803-57-8  
 Hazardous Ingredients : Hydrazine CAS No. : 302-01-2

### Point 3. Hazardous Identification

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Class: 8 (6.1)  
 CAS No.: 7803-57-8  
 UN No.: 2030  
 Hazchem No.: 2 P **NFPA Rating:** Health – 3, Fire – 2, Reactivity – 2

**Potential Acute Health Effects:** Extremely hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (sensitizer, permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over- exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:** Extremely hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (sensitizer, permeator). **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to lungs,

liver, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

#### **Point 4. First Aid Measures**

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- Eyes Contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
- Skin Contact** : If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
- Serious Skin Contact** : Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
- Inhalation** : Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
- Serious Inhalation** : Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
- Ingestion** : Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.  
Serious Ingestion: Not available.

#### **Point 5. Fire and Explosion Data**

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Flammability of product : Combustible



GUJARAT ALKALIES AND CHEMICALS LIMITED  
MATERIAL SAFETY DATA SHEET

Auto Ignition Temperature : Not Available  
Flash Point : Open Cup – 72° C (161.6° F) (Cleveland)  
Flammable Limit : Lower – 4.7 %  
Product of Combustion : Not Available

**Fire Hazards in Presence of Various Substances:** Flammable in presence of open flames and sparks, of oxidizing materials.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Explosive in presence of metals.

**Fire Fighting Media and Instructions:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Point 6. Accidental Release Measures

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**Small Spill:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill:** Combustible material. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

## Point 7. Handling and Storage

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**Precaution:** Keep locked up Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product in case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes Keep away from incompatibles such as oxidizing agents, metals, acids, moisture.

**Storage:** Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

## **Point 8. Exposure Controls and Personal Protection**

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**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:** Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

**Personal Protection in case of Large spill:** Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposer Limits:** Not Available.

## **Point 9. Physical and Chemical Properties**

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Physical State	: Liquid
Odor	: Not Available
Taste	: Not Available
Molecular weight	: 50.06 g / mol
Color	: Not Available
pH (1 % soln / water)	: Not Available
Boiling Point	: 113.5° C (236.3° F)
Melting Point	: -51.7° C (-61.1° F)
Critical temperature	: Not Available
Specific Gravity	: 1 (water = 1)
Vapor Pressure	: Not Available
Vapor Density	: 1.1 (Air =1)
Volatility	: Not Available
Odor Threshold	: Not Available
Dispersion Properties	: Solubility in water, methanol
Solubility	: Easily soluble in cold water, hot water. Soluble in methanol. Insoluble in diethyl ether

### **Point 10. Stability and Reactivity**

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Chemical Stability	:	The product is stable. Instability Temperature: Not available. Conditions of Instability: Not available
Incompatibility	:	Extremely reactive or incompatible with oxidizing agents, metals, acids. Reactive with moisture
Reactivity	:	Decomposes on heating. Explodes in presence of bromine trifluoride. Explosion hazard. Forms explosive mixtures in air. May explode when heated. Reacts violently with iodine monochloride. Reacts violently with iodine pentachloride. <span style="float: right;">R</span>
Corrosivity	:	Not Available.
Polymerization	:	No

### **Point 11. Toxicological Information**

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**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:**

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR.

**EXPOSER:**

Acute oral toxicity (LD50): 83 mg / kg [Mouse].

Acute toxicity of the vapor (LC50): 570 ppm 4 hour(s) [Rat].

**Chronic Effects on Human:** The substance is toxic to lungs, liver, mucous membranes.

**Other Toxic Effects on Human:** Extremely hazardous in case of skin contact, of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Animal embryo toxic.

**Special Remarks on other Toxic Effects on Humans:** Not available.

### **Point 12. Ecological Information**

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Eco Toxicity	:	Not Available
BOD and COD	:	Not Available
Products of Biodegradation	:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	:	The products of degradation are less toxic.
Special Remarks	:	Not Available

### **Point 13. Disposal Consideration**

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Waste Disposal

### **Point 14. Transport Information**

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Formula :  $H_6 N_2 O$   
UN number : UN 2030  
CAS No. : 7803-57-8  
Proper Shipping Name : Hydrazine Hydrate  
Hazard Class : 8 (6.1)

### **Point 15. Regulatory Information**

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Symbol - C – Corrosive  
Phrases - Combustible

**NFPA Rating:** Health Hazard – 3, Fire Hazard – 2, Reactivity – 2

**Protective Equipment:** Gloves, Full suit, Vapor respirator, be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

### **Point 16. Other Information**

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