



Hummel Croton Inc.  
10 Harmich Road  
South Plainfield, NJ 07080

Tel:908-754-1800 / Fax 908-754-1815

MSDS



## Hydrazine Hydrate (100% Solution)

**In case of Emergency Call Chemtrec®**  
(U.S.) (800)-424-9300  
(International) (703)-527-3887

### Section I. Chemical Product and Company Identification

**Supplier:**

Hummel Croton Inc.  
10 Harmich Road  
South Plainfield, NJ 07080  
(908)-754-1800

**Chemical Name:** Hydrazine Hydrate (100% Solution)

**Synonym:** 64% Hydrazine Solution

**CAS Number:** 302-01-2

**Chemical Formula:** H<sub>4</sub>N<sub>2</sub>

HMIS Rating

Health	3
Flammability	2
Reactivity	2
Personal Protection	X

### Section II. Composition and Information on Ingredients

Material	CAS#	%	OSHA	ACGIH
Hydrazine	302-01-2	64%	0.1 mg/m <sup>3</sup> Skin	0.013 mg/m <sup>3</sup> Skin
Water	7732-18-5	36%	Not Established	Not Established

### Section III Hazards Identification:

**Acute Health Effects:** ACUTE EFFECTS: May be fatal if inhaled, swallowed, or absorbed through skin. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, and shortness of breath, headache, nausea and vomiting. May cause allergic reaction. Can cause CNS depression. May cause convulsions. EXPOSURE CAN CAUSE: Damage to the eyes. Damage to the liver. Damage to the kidneys. Damage to the lungs. Blood effects ACUTE INHALATION: Inhalation may irritate the respiratory tract. Symptoms may include coughing, shortness of breath, sore throat and runny nose. If sufficient amounts are inhaled and absorbed, symptoms may resemble those in acute ingestion. ACUTE SKIN CONTACT: Skin contact may cause irritation with symptoms of redness, swelling, itching and pain. ACUTE EYE CONTACT: Eye contact may cause irritation with symptoms of redness, swelling, itching, tearing and pain. ACUTE INGESTION: Ingestion may cause gastroenteritis (inflammation of the lining membrane of the stomach and intestines) with abdominal pain, nausea, vomiting and diarrhea. Systemic effects may follow and may include ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors

**Chronic Health Effects:** Carcinogen. May alter genetic material

**Acute Health Effects:** Hydrazine is listed by NTP (sufficient evidence of carcinogenicity from studies in experimental animals), IARC (Possibly Carcinogenic to Humans: Limited evidence in humans in the absence of sufficient evidence in experimental animals.) and regulated as a carcinogen by NIOSH (carcinogen defined with no further categorization).

## Section IV. First Aid Measures

**First Aid For Eye:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

**First Aid For Skin:** In case of contact, flush skin with water. Wash clothing before reuse. Call a physician if irritation occurs.

**First Aid For Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**First Aid For Ingestion:** If swallowed, call a physician immediately.

## Section V. Fire and Explosion Data

**Flammability:** Yes

**Flash Points:** 74-93°C (Cleveland CC)

**Auto-Ignition:** Not Applicable

**Flammable Limits:** Lower: 3.4% in air @ 1000mbar Upper: 100% in air @ 1000mbar

**Extinguishing Media:** Water, Carbon Dioxide & Foam

**Fire Fighting Procedure:** In case of fire, wear NIOSH approved self-contained breathing apparatus (SCBA) with full-face piece, operated in the positive pressure mode. Wear full protective clothing.

**Fire/Explosion Hazards:** Move container from the fire area, if possible. Cool fire exposed containers with water well after the fire is out. For massive fire in a storage area use an unmanned hose holder. Flooding is best technique.

## Section VI. Accidental Release Measures

**Spill Or Leak Procedures:** Collect wash water for approved disposal. Keep from entering water or ground water. Utilize recommended protective clothing and equipment. Clean spills in a manner that does not disperse liquid into the air. Isolate area of spill by diking. Transfer contents to a non-leaking container or storage vessel. Neutralize spilled hydrazine by diluting with water to a 5% or less solution. Add an equal volume of 5% calcium hypochlorite aqueous solution. Test for neutralization. After neutralization, transfer material to appropriate DOT container for proper disposal. Keep from entering water or ground water.

## Section VII. Handling and Storage

**Storage Temperatures:** Store at ambient temperature

**Shelf Life:** Unlimited in tightly closed container.

**Special Sensitivity:** None

**Handling/Storage Precautions:** Avoid breathing vapor. Avoid getting in eyes or on skin. Wash thoroughly after handling. Store in a dry place away from direct sunlight, heat and incompatible materials (see Section X). Reseal containers immediately after use. Store away from food and beverages.

## Section VIII. Exposure Controls/Personal Protection

**Eye Protection:** Safety glasses or goggles.

**Skin Protection:** PVC gloves with impervious boots, apron or coveralls. Employees should wash their hands and face before eating, drinking or using tobacco products.

**Respirator:** Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved vapor respirator must be worn.

**Ventilation:** Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.

**Additional Protective Measures:** Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals.

## Section IX. Physical and Chemical Properties

**Physical Form:** Liquid

**Color:** Colorless to Slight Amber

**Odor:** Slight Characteristic Odor

**Molecular Weight:** 32.05 as Hydrazine

**Boiling Point:** 120.1°C

**Melting/Freezing Point:** -51°C

**Solubility In Water:** Completely Soluble

**Specific Gravity:** 1.032

## Section X. Stability And Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will Not occur

**Incompatibilities:** Strong Acid & Strong Oxidizers Barium Oxide, Calcium Oxide, Chromate Salts, Alkali Metals And Metal Salts.

**Instable Conditions:** Excessive temperatures (see Incompatibilities).

**Decomposition Temperature:** Not Determined

**Decomposition products:** Nitrogen products and in some cases hydrogen, an explosive gas.

## Section XI. Toxicological Infomation

**RTECS Number:** MV8050000

**Routes of Exposure:** Eye contact. Ingestion. Inhalation. Skin contact.

**Toxicity Data:** Ori-Rat LD50: 129 mg/kg Ori-Mus LD50: 83 mg/kg lpr-Mus LD50: 156 mg/kg

**Chronic Toxic Effects:** Carcinogen. May alter genetic material

**Acute Toxic Effects:** May be fatal if inhaled, swallowed, or absorbed through skin. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, and shortness of breath, headache, nausea and vomiting. May cause allergic reaction. Can cause CNS depression. May cause convulsions.

## Section XII. Ecological Information

**Ecotoxicity:** Not available at this time.

## Section XIII. Disposal Considerations

**Waste Disposal Method:** Waste disposal should be in accordance with existing federal, state and local environmental regulations.

## Section XIV. Transportation Information

**Proper Shipping Name:** Hydrazine Aqueous Solution with more than 37% hydrazine by mass

**UN Number:** 2030

**Class:** 8

**P.G.:** II

**Label Code:** 8(6.1)

**Reportable Quantity:** RQ 1(.454)

## Section XV. Regulatory Information

**OSHA Status:** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

**TSCA Chemical Inventory:** This compound is on the EPA Toxic Substance Control Act (TSCA) inventory List

**California Proposition 65:** This product contains levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

**SARA 313 Title III:**

Section 302 ExtremelyHazardous Substances: None

Section 311/312 Hazardous Categories: None

Section 313 Toxic Chemicals: This product may be subjected to SARA section 313 reporting requirements.

## Section XVI. Other Information

**Prepared By:** Mark Dugan

**Date:** January 05, 2009

**Reason For Issue:** Updated Format

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