



Bay E Farrell Road SE
Calgary, Alberta, Canada
T2H 0T2

EMERGENCY NUMBERS:

USA and Canada 1 877 936 6654

WHMIS	Protective Clothing	TDG Road/Rail
WHMIS CLASS: D-2B		Not controlled under TDG (Canada). PIN: Not applicable. PG: Not applicable.
		

Section I. Product Identification and Uses

Product name	ACETIC ACID 5% SOLUTION	CI#	Not available.
Chemical formula	Not applicable.	CAS#	Not applicable.
Synonyms	R-0020 (1-5%),R-0025, R-0010B, 00678,00659	Code	R-0020
Supplier	Envent Engineering Ltd Bay E Farrell Road SE Calgary, Alberta, Canada T2H 0T2	Formula weight	Not applicable.
		Supersedes	
Material uses	For analytical use only.		

Section II. Ingredients

Name	CAS #	%	TLV
1) ACETIC ACID, GLACIAL	64-19-7	5	Exposure limits: ACGIH TWA 10 ppm (25 mg/m3); STEL 15 ppm (37 mg/m3) Not established by ACGIH
2) WATER	7732-18-5	Balance	

Toxicity values of the hazardous ingredients

ACETIC ACID, GLACIAL:
 ORAL (LD50): Acute: 3310 mg/kg (Rat).
 DERMAL (LD50): Acute: 1060 ul/kg (Rabbit).
 VAPOR (LC50): Acute: 5620 ppm (Mouse) (1 hour(s)).
 UNREPORTED (LDLo): Acute: 308 mg/kg (Man).
 INTRAVENOUS (LD50): Acute: 525 mg/kg (Mouse).

Section III. Physical Data

Physical state and appearance / Odor	Colorless liquid with vinegar like odor.
pH (1% soln/water)	1.5 (100% acetic acid)
Odor threshold	>0.21 ppm
Percent volatile	100% (V/V)
Freezing point	Not available.
Boiling point	Not available.
Specific gravity	1.02 (Water = 1)
Vapor density	2.1 (Air = 1)
Vapor pressure	11.4 mm of Hg (@ 20°C)
Water/oil dist. coeff.	Not available.
Evaporation rate	Not available.
Solubility	Miscible in water.

Section IV. Fire and Explosion Data

Flash point	CLOSED CUP: Higher than 93°C.
Flammable limits	Not available.
Auto-ignition temperature	Not available.
Fire degradation products	Oxides of carbon (CO, CO ₂).
Fire extinguishing procedures	Use DRY chemical, carbon dioxide, alcohol-resistant foam or water spray. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water until well after fire is out.
Fire and Explosion Hazards	Contact with other material may cause fire and/or explosion. Flammable/explosive hydrogen gas may be formed upon contact of this product with metals. Sensitive to static discharge. The sensitivity to impact is not available. Emits toxic fumes under fire conditions.

Section V. Toxicological Properties

Routes of entry	Ingestion and inhalation. Eye contact. Skin contact. Skin absorption.
Effects of Acute Exposure	Harmful by inhalation, in contact with skin and if swallowed. Target organs: liver, kidneys, eyes, skin, cardiovascular system, respiratory system, lungs, teeth. 50 ppm (ACETIC ACID, GLACIAL) is immediately dangerous to life or health.
Eye	Causes irritation.
Skin	Repeated or prolonged skin contact may cause irritation or dermatitis.
Inhalation	Material is irritating to mucous membranes and upper respiratory tract. May cause central nervous system depression (e.g., headache, nausea, vomiting), coughing, dyspnea, thoracic pain, bronchopneumonia, chemical pneumonitis, pulmonary edema. See ingestion.
Ingestion	Causes gastrointestinal irritation. Ingestion of large amounts may cause nausea, diarrhea, abdominal pain, hematemesis, albuminuria, hemolysis, hemoglobinuria, anuria, uremia, kidney damage, shock, coma and possibly death.

Section V. Toxicological Properties

Effects of Chronic Overexposure Conjunctivitis, dark coloration of the skin, dermatitis, dental erosion, pharyngitis, chronic bronchitis, hyperkeratosis, pyrosis, constipation, kidney damage. May cause allergic skin reaction. Detected in maternal milk in animals. Carcinogenic effects: Not available. Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge the chronic toxicity of this substance has not been fully investigated.

Section VI. First Aid Measures

Eye contact Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Call a physician.

Skin contact Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If irritation occurs or persists seek medical attention. Wash contaminated clothing before reusing.

Inhalation Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Call a physician.

Ingestion If conscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. DO NOT induce vomiting. Call a physician. Never give anything by mouth to an unconscious or convulsing person. Guard against aspiration into lungs. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

Section VII. Reactivity Data

Stability Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination.

Hazardous decomp. products Not available.

Incompatibility Reacts with most common metals to produce hydrogen. May react violently with: oxidizing agents, amines, bases, chromic acid, nitric acid, sodium peroxide, alcohols, alkalis, peroxides, perchloric acid, sulfides, cyanides, carbonates, chlorosulfonic acid, 2-aminoethanol, bromine pentafluoride, phosphorus trichloride, acetaldehyde, acetic anhydride, potassium tert-butoxide, permanganates, n-xylene, oleum, phosphorus isocyanate, oxides, hydrides, acid anhydrides, hydroxides, chlorine trifluoride, citric acid, ammonium nitrate, ethylene glycol, phosphates.

Reaction Products Corrosive to metals. Hazardous polymerization will not occur.

Section VIII. Preventive Measures

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Protective Clothing in case of spill and leak Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.

Spill and leak Evacuate the area. Cover with dry soda ash or lime. Absorb on sand or vermiculite and place in a closed container for disposal. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Adequate ventilation is required for soda ash due to release of carbon dioxide gas.

Waste disposal According to all applicable regulations. This material and its container must be disposed of in a safe way. Harmful to aquatic life at very low concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Storage and Handling Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Keep away from combustible and oxidizing materials. Manipulate in a well ventilated area or under an adequate fume hood. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling.

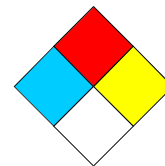
Section IX. Protective Measures

Protective clothing Splash goggles. Impervious neoprene gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.

Engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Do not use in unventilated spaces.

Section X. Other Information

Special Precautions or comments Irritant! Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Manipulate in a well ventilated area or under an adequate fume hood. Handle and open container with care. Container should be opened only by a technically qualified person. RTECS NO: AF1225000 (Acetic acid, glacial).



NFPA

Prepared by MSDS Department/Département de F.S..

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While the company believes the data set forth herein are accurate as of the date hereof, the company makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.