Section 1: Product and Company Identification

**Product Name:** ACETIC ACID, GLACIAL  
**Index Number:** 607-002-00-6

**Product Number(s):**  
S010601, S010601-SSEE03, S010601-SSEE05, S010601-SSEE09, S010601-SSEH43, S010601-SSNQ03, S010601-SSNQ09, S010601-SSNH43, S020601, S020601-SSEF01, S020601-SSEF02, S020601-SSEF03, S020601-SSEF04, S020601-SSEF05, S020601-SSEF06, S020601-SSNF01, S020601-SSNF02, S020601-SSNF03, S020601-SSNF04, S020601-SSNF05, S020601-SSNF06, S020601-SSRF01, S020601-SSRF02, S020601-SSRF03, S020601-SSRF04, S020601-SSRF05, S020601-SSRF06, S050601-SSEE03, S050601-SSEE05, S050601-SSEE09, S050601-SSSEQ03, S050601-SSEEQ09

**Synonyms:** Ethanoic acid; Methanecarboxylic acid

**Chemical names:** DE Essigsäure; ES Ácido acético; FR Acide acétique; IT Acido acetico; NL Azijnzuur

**Supplier:** SEASTAR CHEMICALS Inc.

**Address:** 10005 McDonald Park Road, Sidney, BC V8L 5Y2 CANADA

**Phone Number:** 250-655-5880  
**Fax Number:** 250-655-5888

**CANUTEC (CAN):** 613-996-6666

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Section 2: Hazards Identification

**Emergency Overview**

**Appearance:** Clear, colourless liquid above 16 °C and colourless, icelike crystals below 16 °C.

**Target Organs:** Teeth, eyes, skin, mucous membranes.

**Classification:** Skin corrosion – Category 1A  
Flammable liquid – Category 3

**GHS**

**Pictograms:** GHS05  
GHS02

**Signal Word:** Danger

**Hazard Statements:**

H226: Flammable liquid and vapour.

H314: Causes severe skin burns and eye damage.

**Precautionary Statements:**

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash thoroughly after handling.

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.

P370+P378: In case of fire: Use dry chemical, carbon dioxide, or alcohol-resistant foam for extinction. Use water spray ONLY to cool fire-exposed containers or disperse vapours if they have not ignited.

P310: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment (see P310).

P363: Wash contaminated clothing before reuse.

P403+P233: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

P501: Dispose of contents/container according to federal, regional and local government requirements.
Section 3: Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS / ELINCS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-19-7</td>
<td>Acetic acid, glacial</td>
<td>≥99%</td>
<td>200-580-7</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures

In case of contact:

Inhalation: This chemical is a strong respiratory irritant. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of contamination or move victim to fresh air. Immediately obtain medical attention.

Skin: Avoid direct contact. Wear chemical protective clothing, if necessary. As quickly as possible, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately flush with lukewarm, gently flowing water for 15-20 minutes. If irritation persists, repeat flushing. Immediately obtain medical attention. Double bag, seal, label and leave contaminated clothing, shoes and leather goods at the scene for safe disposal.

Eye: Avoid direct contact. Wear chemical protective clothing, if necessary. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens until flushing is done. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention.

Ingestion: Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim rinse mouth with water again. Immediately obtain medical attention.

Notes to Physician/Doctor: Provide general supportive measures (comfort, warmth, rest). Consult a doctor and/or the nearest Poison Control Centre for all exposures. All first aid procedures should be periodically reviewed by a doctor familiar with the material and its conditions of use in the workplace.

Section 5: Fire Fighting Measures

Fire Hazard Summary:
COMBUSTIBLE LIQUID AND VAPOUR. Can form explosive mixtures with air at, or above, 39 °C. Vapour is heavier than air and may travel a considerable distance to a source of ignition and flash back to a leak or open container. Vapours from warm liquid can accumulate in confined spaces, resulting in a flammability and toxicity hazard. Closed containers may rupture violently when heated. NOTE: The fire properties of acetic acid depend upon the strength of the solution. In concentrated form, its properties approach those of glacial acetic acid. Reacts with most metals to form highly flammable hydrogen gas, which can form explosive mixtures with air. Firefighters should wear a positive pressure self-contained respirator (SCBA) and full-body encapsulating chemical protective suit. Butyl rubber, Teflon™, Viton™, or Saranex™ barrier recommended.

Extinguishing Media: Extinguish fire using extinguishing agent suitable for the surrounding fire. Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams" are recommended for use with any polar flammable liquid that is completely soluble in water, like acetic acid.

Extinguishing Media to be Avoided: Use water spray ONLY to cool fire-exposed containers or disperse vapours if they have not ignited.

Flash Point: 39 °C (103 °F); 43 °C (109.4 °F); 50 °C (122 °F) (closed cup values)

Lower Flammable (Explosive) Limit (LFL/LEL): 4%; also reported as 5.3%-5.4%

Upper Flammable (Explosive) Limit (UFL/UEL): 16%; also reported as 19.9%
### SDS: ACETIC ACID, GLACIAL

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoignition (Ignition) Temperature:</td>
<td>426 °C (799 °F); 463 °C (867 °F); 516 °C (961 °F)</td>
</tr>
<tr>
<td>Sensitivity to Mechanical Impact:</td>
<td>Probably not sensitive. Stable material.</td>
</tr>
<tr>
<td>Sensitivity to Static Charge:</td>
<td>Will not accumulate static charge.</td>
</tr>
<tr>
<td>Electrical Conductivity:</td>
<td>1.12×10⁶ pS/m at 25 °C</td>
</tr>
<tr>
<td>Minimum Ignition Energy:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Combustion and Thermal Decomposition Products:</td>
<td>Irritant gases, which may include unburned acid and toxic constituents.</td>
</tr>
</tbody>
</table>

#### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION - Glacial acetic acid

<table>
<thead>
<tr>
<th>Health:</th>
<th>3 – Short exposure could cause serious temporary or residual injury.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability:</td>
<td>2 – Must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.</td>
</tr>
<tr>
<td>Reactivity:</td>
<td>0 – Normally stable, even under fire conditions, and not reactive with water.</td>
</tr>
<tr>
<td>Special Hazard:</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

#### Section 6: Accidental Release Measures

**Spill Precautions:**
Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate personal protective equipment. Extinguish or remove all ignition sources. Notify government occupational health and safety and environmental authorities.

**Clean-up:**
Do not touch spilled material. Prevent material from entering sewers or confined spaces. Stop or reduce leak if safe to do so.

Contain spill with earth, sand, or absorbent material which does not react with spilled material. Remove liquid by pumps or vacuum equipment. Place in suitable, covered, labelled containers.

**SMALL SPILLS:** Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product.

**LARGE SPILLS:** Contact fire and emergency services and supplier for advice.

#### Section 7: Handling and Storage

**Handling:**
This material is a CORROSIVE (to eyes, skin and some metals), COMBUSTIBLE LIQUID. Before handling it is important that engineering controls are operating and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use.

Unprotected persons should avoid all contact with this chemical including contaminated equipment. Use the original container or the type of container recommended by the manufacturer. Inspect containers for damage or leaks before handling. Immediately report leaks, spills or failures of the engineering controls.

Avoid all ignition sources. Post "NO-SMOKING" signs. It is good practice to keep all areas where this material is handled clear of other materials which can burn (e.g. cardboard, sawdust).

Use in the smallest possible amounts, in a well-ventilated area, separate from the storage area. Avoid generating vapours or mists. Prevent the release of vapours or mists into the air.

Do not use with incompatible materials such as strong oxidizing agents, strong alkalis or caustics, most common metals and others. See Section 10 for more information. Never return contaminated material to its original container. Label containers. Avoid damaging containers. Keep containers closed when not in use. Empty containers may contain hazardous residues.

Ground all drums, transfer vessels, hoses and piping. Ground clips must contact bare metal. Use corrosion-resistant transfer equipment when dispensing. Never add water to a corrosive. Always add corrosives to water. When mixing with water, stir small amounts in slowly. Use cold water to prevent excessive heat generation. Never perform any welding, cutting, soldering, drilling or other hot work on an empty vessel, containers or piping until all liquid and vapours have been cleared.
Have suitable emergency equipment for fires, spills and leaks readily available. Practice good housekeeping. Maintain handling equipment. Comply with applicable regulations.

**Storage:**
Store in a cool, dry, well-ventilated area, out of direct sunlight and away from heat and ignition sources. Keep storage area clear of burnable materials (e.g., old rags, cardboard). Lighted cigarettes, matches, or any other ignition sources should not be allowed around indoor or outdoor storage areas.
Store away from oxidizers and corrosives and other incompatible materials such as most common metals and others. See Section 10 for more information.

Inspect all incoming containers to make sure they are properly labelled and not damaged. Keep quantity stored as small as possible. Store in suitable, labelled containers (usually the shipping container). Keep containers tightly closed. No stacking of containers. Protect from damage. Keep empty containers in separate storage area. Empty containers may contain hazardous residues. Keep closed.

Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Keep storage area separate from work areas. Store away from work process and production areas, elevators, building and room exits or main aisles leading to exits. Post warning signs. Inspect periodically for damage or leaks.

Have appropriate fire extinguishers and spill clean-up equipment in or near storage area. Store away from heat and ignition sources. Storage facilities should be made of fire-resistant and corrosion-resistant materials.

If combustible materials according to applicable occupational health and safety regulations and fire and building codes. In general, storage tanks should be above ground over an area sealed on the bottom and diked to hold entire contents.

### Section 8: Exposure Controls/Personal Protection

**General Exposure Precautions:**

NOTE: Exposure to this material can be controlled in many ways. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. This general information can be used to help develop specific control measures. Ensure that control systems are properly designed and maintained. Comply with occupational, environmental, fire, and other applicable regulations.

**Engineering Controls:**

Engineering control methods to reduce hazardous exposures are preferred. Methods include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, control of process conditions, and process modification (e.g., substitution of a less hazardous material). Administrative controls and personal protective equipment may also be required.

Use local exhaust ventilation, and process enclosure if necessary, to control airborne mist and vapours. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside taking necessary precautions for environmental protection. Supply sufficient replacement air to make up for air removed by exhaust systems. Have a safety shower/eye-wash fountain readily available in the immediate work area.

**Personal Protective Equipment:**

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills or fire.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. Refer to the CSA Standard Z94.4-11, “Selection, Use and Care of Respirators,” available from the Canadian Standards Association.

<table>
<thead>
<tr>
<th>Eye / Face protection:</th>
<th>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. A face shield may also be necessary.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin protection:</td>
<td>Wear impervious gloves and appropriate protective clothing. Choose body protection according to the amount and concentration of the substance at the work place. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.</td>
</tr>
</tbody>
</table>
Resistance of Materials for Protective Clothing:

Guidelines for acetic acid:

RECOMMENDED (resistance to breakthrough longer than 8 hours): Butyl rubber; Silver Shield/4H™ (polyethylene/ethylene vinyl alcohol); Trellchem™ HPS or VPS; Tychem™ SL (Saranex™), F, Responder™, or TK.

RECOMMENDED (resistance to breakthrough longer than 4 hours): Viton™/Butyl rubber; Tychem™ BR/LV.

CAUTION, use for short periods only (resistance to breakthrough within 1 to 4 hours): Neoprene rubber; Viton™, Barrier (PE/PA/PE); Tychem™ CPF 3.

NOT RECOMMENDED for use (resistance to breakthrough less than 1 hour): Natural rubber; Nitrile rubber; Polyethylene; Polyvinyl alcohol; Polyvinyl chloride.

Inhalation / Ventilation:

Use in a chemical fume hood. Where risk assessment shows air-purifying respirators are appropriate use a full-facepiece respirator with organic vapour (US) or type A (EN 143) 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).

Personal Hygiene:

Remove contaminated clothing immediately. Keep contaminated clothing in closed containers. Discard or launder before reusing. Inform laundry personnel of contaminant's hazards. Do not eat or drink in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping. Handle in accordance with good industrial hygiene and safety practice.

EXPOSURE GUIDELINES - Listed under Acetic acid, as C₂H₄O₂

NIOSH: REL-TWA: 10 ppm (25 mg/m³); REL-STEL: 15 ppm (37 mg/m³); IDLH: 50 ppm

ACGIH: TLV-TWA: 10 ppm; TLV-STEL: 15 ppm

OSHA PELs: PEL-TWA: 10 ppm (25 mg/m³); PEL-T-TWA: 10 ppm (25 mg/m³)

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Form:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting/Freezing Point:</td>
<td>100% w/w: 16.6 °C (61.9 °F)</td>
</tr>
<tr>
<td>Color:</td>
<td>Clear, colourless</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>100% w/w: 117.9 °C (244.2 °F)</td>
</tr>
<tr>
<td>Odour:</td>
<td>Pungent – acetic odour</td>
</tr>
<tr>
<td>pH:</td>
<td>2.4 (1 M solution)</td>
</tr>
<tr>
<td>Odour Threshold:</td>
<td>0.037-0.15 ppm (detection)</td>
</tr>
<tr>
<td>Density:</td>
<td>1.05 g/mL @ 20 °C (100%)</td>
</tr>
<tr>
<td>Chemical Formula:</td>
<td>CH₃COOH</td>
</tr>
<tr>
<td>Vapour Pressure:</td>
<td>1.52 kPa (11.4 mmHg) @ 20 °C</td>
</tr>
<tr>
<td>Formula Weight:</td>
<td>60.052 g/mol</td>
</tr>
<tr>
<td>Vapour Density:</td>
<td>2.07 (air=1) (calc.)</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Miscible with water</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

Stable at room temperature in closed containers under normal storage and handling conditions. Attacks many forms of plastics, rubber and coatings; dissolves synthetic resins and rubber.

Incompatibility - Materials to Avoid:

NOTE: Chemical reactions that could result in a hazardous situation (e.g. generation of flammable or toxic chemicals, fire or detonation) are listed here. Many of these reactions can be done safely if specific control measures (e.g. cooling of the reaction) are in place. Although not intended to be complete, an overview of important reactions involving common chemicals is provided to assist in the development of safe work practices.

STRONG OXIDIZING AGENTS (e.g. chromic acid, hydrogen peroxide, nitric acid, perchloric acid, potassium permanganate, sodium peroxide) or BROMINE PENTAFLUORIDE, CHLORINE TRIFLUORIDE - react violently, with risk of fire and explosion.

PHOSPHORUS TRICHLORIDE - explosion may occur due to the possible formation of spontaneously flammable phosphine.

p-XYLENE - during production of terephthalic acid, in which p-xylene is oxidized in the presence of acetic acid, detonating mixtures may be produced.

STRONG ALKALIS or CAUSTICS (e.g. sodium or potassium hydroxide) or BASES - may react violently.

PHOSPHORUS ISOXYANATE - react violently.

POTASSIUM tert-BUTOXIDE - ignition occurs after 3 minutes.

AMMONIUM NITRATE - may ignite when warmed.

MOST COMMON METALS (except aluminum) - may give off flammable hydrogen gas.
AMMONIUM THIOSULFATE - releases toxic sulfur dioxide under ambient conditions.

ACETALDEHYDE - polymerization occurs, with evolution of heat.

2-AMINOETHANOL, CHLOROSULFONIC ACID, ETHYLENE DIAMINE, ETHYLENEIMINE, OLEUM - mixing in a closed container caused the temperature and pressure to rise.

**Conditions to avoid:**
Temperatures above 39°C, open flames, static charge, sparks, and other ignition sources.

**Hazardous Decomposition Products:**
Carbon oxides.

**Hazardous Polymerization:**
None reported.

**Corrosivity to Metals:**
Carbon steel (e.g. types 1010, 1020, 1075 and 1095) is attacked (corrosion rate greater than 1.25 mm/year) by all concentrations of acetic acid up to 240 °C (115.6 °F). Acetic acid is also corrosive to cast iron, gray cast iron, ductile cast iron, galvanized steel, zinc, brass, naval brass, bronze, silicon bronze, aluminum bronze, lead, particularly when diluted with water. Acetic acid (all concentrations) is not corrosive to some stainless steels (e.g. types 304, 316 and Carpenter 20Cb-3), high silicon cast iron (Duriron), nickel and nickel-base alloys, Hastelloy B, C/C-276 and D, Inconel 600 and Incoloy 825, copper-nickel (70-30 and 90-10), tantalum, titanium, and zirconium. Copper and alloys, except those with high zinc content, show good resistance at all concentrations of acetic acid, up to and above the boiling temperature (117.9 °C (244.2 °F)), in the absence of oxygen and other oxidants. Depending on conditions, acetic acid (greater than 99%) may be used with or stored and shipped in aluminum (alloys not specified). Aluminum slowly corrodes, forming a layer of aluminum acetate that prevents further corrosion. Water increases the corrosion rate significantly while present, as an impurity, catalyzes the corrosion of aluminum. Maintaining a high acid concentration and not using a mercury thermometer help to prevent catastrophic corrosion. Acetic acid (50-100%) is corrosive to type 3003 aluminum at the boiling point (117.9 °C (244.2 °F)). Aeration and oxidizing ions have detrimental effects on the resistance of some stainless steels (e.g. types 301, 304, 321, 400 series), carbon steel (e.g. types 1010, 1020, 1075 and 1985), nickel, Inconel 600, copper and alloys, brass, silicon bronze, copper-nickel (70-30 and 90-10), cartridge brass, naval brass and admiralty brass to corrosion by acetic acids.

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**Section 11: Toxicological Information**

**Potential Health Effects**

**Inhalation:**
Accidental inhalation of high concentrations may cause corrosive injury to the respiratory tract, inflammation, nose and throat irritation, shortness of breath, cough, wheezing, and reversible lung injury. Effects may be delayed.

**Skin:**
The degree of irritation depends on the concentration of acetic acid and the length of exposure. Highly concentrated solutions or pure acetic acid can cause corrosive tissue injury with deep burns, tissue death and permanent scarring. Less concentrated solutions can cause mild to severe irritation.

**Eye:**
Concentrated solutions are corrosive and can cause permanent eye damage, including blindness.

**Ingestion:**
Causes severe corrosive injury to the gastrointestinal tract and stomach. Acetic acid may be aspirated (inhaled into the lungs) during ingestion or vomiting. Aspiration of even a small amount of liquid could result in a life-threatening accumulation of fluid in the lungs. Severe lung damage (edema), respiratory failure, cardiac arrest and death may result. Ingestion is not a typical route of occupational exposure.

**Chronic:**
Repeated inhalation may cause pulmonary edema, bronchopneumonia, or chemical pneumonitis. Prolonged or repeated exposure may cause dermatitis, erosion of teeth, conjunctivitis and cumulative systemic injury. To the best of our knowledge, the chronic toxicity of this substance has not been fully investigated.

**Effects of Long-Term (Chronic) Exposure**

**RTECS#:**
AF1225000

**Descriptor:**
Agricultural Chemical; Tumorigen; Mutagen; Human; Primary Irritant; Reproductive Effector

**LD50/ LC50:**
- **TDLo** (lowest published toxic dose) Oral, human – 1,470 µg/kg – Gastrointestinal: changes in structure or function of esophagus, ulceration or bleeding from small and large intestines AIHAAP American Industrial Hygiene Association Journal.
- **LD50** (lethal dose, 50% kill) Oral, rat – 3,310 mg/kg DMDJAP Delaware State Medical Journal.
- **LD50** Intravenous, mouse – 525 mg/kg – Behavioural: convulsions or effect on seizure threshold APTOA6 Acta Pharmacologica et Toxicologica.
- **LC50** Inhalation, mouse – 5,620 ppm/1H – Sense Organs (Eye): conjunctive irritation, effect n.o.s.; Blood: other changes MELAAD Medicina del Lavoro.

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**SDS – Acetic acid, glacial**
## SDS: ACETIC ACID, GLACIAL

### Epidemiology:
Standard Draize test – Skin, human – 50 mg/24H, mild reaction TXAPA9 Toxicology and Applied Pharmacology. Open irritation test – Skin, rabbit – 525 mg, severe reaction UCDS** Union Carbide Data Sheet.

### Teratogenicity:
No information available.

### Reproductive Effects:
- **TDLo Oral, rat** – 700 mg/kg (lactating female 18D) – Effects on Newborn; behavioural NTOTDY Neurobehavioural Toxicology and Teratology.
- **TDLo Intratesticular, rat** – 400 mg/kg (male 1D pre-mating) – Fertility: male fertility index FESTAS Fertility and Sterility.

### Neurotoxicity:
No information available.

### Mutagenicity:
The mutagenicity of acetic acid appears to be an effect of pH on the culture media, rather than mutagenic activity of acetic acid itself. There have been no positive reports of mutagenicity, once the effect of pH on the culture media has been controlled.

MUREAV Mutation Research:
- Sister chromatid exchange – Lymphocyte, human – 5 mmol/L
- Cytogenetic analysis – Ovary, hamster – 10 mmol/L

### Carcinogenicity:
- **TDLo Oral, rat** – 5,760 mg/kg/32W (intermittent) – Tumorigenic: equivocal tumorigenic agent by RTECS criteria, facilitates action of known carcinogen; Gastrointestinal: tumors HPV093 U.S. Environmental Protection Agency.
- Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

### Section 12: Ecological Information

#### Ecotoxicity:
LC50 – Shrimp – 100-330 ppm/48H (aerated water)

#### Environmental:
Substance spreads on soil surface and penetrates at rate dependent on soil type and water content. Substance readily degrades in water and shows little potential for bioaccumulation.

### Section 13: Disposal Considerations
Review local/regional/international regulations or requirements prior to disposal. Store material for disposal as indicated in Storage Conditions. **Contaminated packaging:** Dispose of as unused product.

### Section 14: Transport Information

#### CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG) SHIPPING INFORMATION
- **Shipping Name and Description:** ACETIC ACID, GLACIAL
- **UN Number:** UN2789
- **Class:** 8 (3)
- **Packing Group/Category:** II
- **Special Provisions:** ---
- **Passenger Carrying Road/Railway Vehicle Index:** 1 kg or L

#### US DEPARTMENT OF TRANSPORT (DOT) HAZARDOUS MATERIALS SHIPPING INFORMATION (49 CFR)
- **Shipping Name and Description:** ACETIC ACID, GLACIAL
- **UN Number:** UN2789
- **Class:** 8
- **Packing Group/Category:** II
- **Special Provisions:** ---
- **EMS Number:** F - E, S - C

### International Maritime Dangerous Goods (IMDG)
- **Proper Shipping Name / Description:** ACETIC ACID, GLACIAL
- **UN Number:** 2789
- **Class or Division (Sub Risk):** 8 (3)
- **Packing Group/Category:** II
- **Special Provisions:** ---
- **EMS Number:** F - E, S - C

### International Air Transport Association (IATA)
- **Proper Shipping Name / Description:** Acetic acid, glacial
- **UNIIID Number:** 2789
- **Class or Division (Sub Risk):** 8 (3)
- **Packing Group:** II
- **Special Provisions:** ---
- **Passenger / Cargo Aircraft:** 851 Pkg Inst, 1L Max Net
- **Cargo Aircraft Only:** 855 Pkg Inst, 30L Max Net

### Section 15: Regulatory Information

#### Acetic acid, glacial
- **CAS# 64-19-7**

#### US Federal:
- **TSCA**
  - Listed on the TSCA Inventory.
- **SARA Title III: Section 302**
  - Not subject to the reporting requirements.
# SDS: ACETIC ACID, GLACIAL

**SARA Title III: Section 313**

<table>
<thead>
<tr>
<th>US State:</th>
<th>Does not exceed the threshold (De Minimis) reporting level of 5,000 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts Right To Know</td>
<td>Subject to this act, 100 lbs RQ.</td>
</tr>
<tr>
<td>Pennsylvania Right To Know</td>
<td>Subject to this act.</td>
</tr>
<tr>
<td>New Jersey Right To Know</td>
<td>Subject to this act, RTK# 0004.</td>
</tr>
<tr>
<td>California Prop. 65</td>
<td>Not subject to this act.</td>
</tr>
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</table>

**Canada:**

<table>
<thead>
<tr>
<th>DSL/ NDSL Status:</th>
<th>Is listed, record number: 1762.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHMIS Classifications:</td>
<td>B3 – Combustible liquid</td>
</tr>
<tr>
<td></td>
<td>E – Corrosive material</td>
</tr>
</tbody>
</table>

## Section 16: Other Information


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