1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Glacial acetic acid
Catalog Number : A1010
Synonym : Acetic acid
Glacial acetic acid
Brand : Northernchem
Product Use : For laboratory research purposes
Manufacturer : Northernchem Inc.
8485 Montrose Rd., Niagara Falls, Ontario, CANADA L2H 3L7
Phone : +1(905) 353-1500
Fax : +1(289) 975-5138
Supplier : Northernchem Inc.
8485 Montrose Rd., Niagara Falls, Ontario, CANADA L2H 3L7
Phone : +1(905) 353-1500
Fax : +1(289) 975-5138
Emergency Phone : +1(905) 650-1938

2. HAZARDS IDENTIFICATION

Target Organs
Teeth., Kidney

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
E	Corrosive Material	Corrosive

GHS Classification

Flammable liquids	Category 3
Acute toxicity, Oral	Category 5
Skin corrosion	Category 1A
Serious eye damage	Category 1

GHS Label Elements, Including Precautionary Statements

Pictogram

Signal Word Danger

Hazard Statement(s)

H226	Flammable liquid and vapour.
H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.

Precautionary Statement(s)

P280	Wear protective gloves/ protective clothing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

Health Hazard	3
Chronic Health Hazard	*
Flammability	2
Physical Hazards	0

Potential Health Effects

Inhalation : May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin : May be harmful if absorbed through skin. Causes skin burns.

Eyes : Causes eye burns. Causes severe eye burns.

Ingestion : May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_2H_4O_2$

Molecular Weight : 60.05 g/mol

CAS-No. : 64-19-7

EC-No. : 200-580-7

Purity : <=100%

4. FIRST AIDS MEASURES

General Advice : Consult a physician. Show this SDS to the physician in attendance. Move out of dangerous area.

Inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact : Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

Eye Contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Condition of Flammability : Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable Extinguishing Media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Protective Equipment for Firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous Combustion Products : Hazardous decomposition products formed under fire conditions. - Carbon oxides

Explosion Data – Sensitivity to Mechanical Impact : No data available

Explosion Data – Sensitivity to Static Discharge : No data available

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental Precautions	:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and Materials for Containment and Cleaning Up	:	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for Safe Handling	:	Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Conditions for Safe 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

Engineering Controls

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering control to control airborne levels.

Personal Protective Equipment

Eyes	:	Wear safety glasses and chemical goggles if splashing is possible.
Skin	:	Wear appropriate protective gloves and clothing to prevent skin exposure:
Clothing	:	Wear appropriate protective clothing to minimize contact with skin
Respirators		Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode w emergency escape provisions.
Hygiene Measures	:	No data available
Workplace Control Parameters	:	No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquid
Colour	:	Colourless
pH	:	2.4 at 60.05 g/l
Melting Point/Freezing Point	:	Melting point/range: 16.2 °C (61.2 °F) - lit.
Boiling Point	:	117 - 118 °C (243 - 244 °F) - lit.
Flash Point	:	No data available

Ignition Temperature	:	485 °C (905 °F)
Autoignition Temperature	:	485.0 °C (905.0 °F)
Lower Explosion Limit	:	4 %(V)
Upper Explosion Limit	:	19.9 %(V)
Vapour Pressure	:	73.3 hPa (55.0 mmHg) at 50.0 °C (122.0 °F) 15.2 hPa (11.4 mmHg) at 20.0 °C (68.0 °F)
Density	:	1.049 g/cm3 at 25 °C (77 °F)
Water Solubility	:	Completely miscible
Partition Coefficient (n-octanol/water)	:	log Pow: -0.17
Relative Vapour Density	:	No data available
Odour	:	Pungent
Odour Threshold	:	No data available
Evaporation Rate	:	No data available

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	:	No data available
Conditions to Avoid	:	Heat, flames and sparks.
Materials to Avoid	:	Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid
Hazardous Decomposition Products	:	Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral LD_{50}	:	LD50 Oral - rat - 3,310 mg/kg
Inhalation LC_{50}	:	LC50 Inhalation - mouse - 1 h - 5620 ppm Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Blood:Other changes. LC50 Inhalation - rat - 4 h - 11.4 mg/l
Dermal LD_{50}	:	LD50 Dermal - rabbit - 1,112 mg/kg
Other Information	:	No data available

Skin Corrosion/Irritation

No data available

Serious Eye Damage/Eye Irritation

Eyes - rabbit - Corrosive to eyes

Respiratory or Skin Sensitisation

May cause sensitisation by skin contact.

Germ Cell Mutagenicity

No data available

Carcinogenicity

IARC : No components of this product present at levels ≥ 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH : No components of this product present at levels ≥0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive Toxicity

No data available

Teratogenicity

No data available

Specific Target Organ Toxicity (Single Exposure)

No data available

Specific target Organ Toxicity (Repeated Exposure)

No data available

Aspiration Hazard

No data available

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, Vomiting, Ingestion or
inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic Effects

No data available

Additional Information

RTECS: AF1225000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	Semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - > 300.82 mg/l - 48 h Method: OECD Test Guideline 202

Persistence and Degradability

Biodegradability	aerobic Result: 99 % - Readily biodegradable. Remarks: Expected to be biodegradable

Bioaccumulative Potential

No data available

Mobility in Soil

No data available

PBT and vPvB Assessment

No data available

Other Adverse Effects

Biochemical Oxygen Demand (BOD)	880 mg/g
Additional ecological information	No data available

13.DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2789 Class: 8 (3) Packing group: II
Proper shipping name: Acetic acid, glacial
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 2789 Class: 8 (3) Packing group: II EMS-No: F-E, S-C
Proper shipping name: ACETIC ACID, GLACIAL
Marine pollutant: No

IATA

UN number: 2789 Class: 8 (3) Packing group: II Proper shipping name: Acetic acid, glacial

Further information

No data available

15. REGULATORY INFORMATION

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
E	Corrosive Material	Corrosive

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION