1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Acetic Acid
Catalog Number : A1009
Synonym : 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(905) 353-0628
Supplier : Northernchem Inc.
8485 Montrose Rd., Niagara Falls, Ontario, CANADA L2H 3L7
Phone : +1(905) 353-1500
Fax : +1(905) 353-0628
Emergency Phone : +1(905) 650-1938 (8:30-17:00 EST)

2. HAZARDS IDENTIFICATION

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
E	Corrosive Material	Corrosive Material

GHS Classification

Flammable liquids	Category	3
Corrosive to Metals	Category	1
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.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P234	Keep only in original container.
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 skin 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 comfortable position 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.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use water spray, alcohol resistant foam, dry chemical foam or carbon dioxide for extinction.
P390	Absorb spillage to prevent material damage.
P403+P235	Store in a well-ventilated place. Keep cool.
P404	Store in a closed container.
P405	Store locked up.
P501	Dispose of contents/container to a licensed waste disposal company.

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	:	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	:	>99%

4. FIRST AIDS MEASURES

General Advice	:	Consult a physician. Show this SDS 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. Continue rinsing eyes during transport to hospital.
Ingestion	:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE AND EXPLOSION DATA

Condition of Flammability	:	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from
Suitable Extinguishing Media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific Hazards Arising from the Chemical	:	No data available
Special Protective Equipment for Firefighters	:	Wear self contained breathing apparatus for fire fighting 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
Further Information	:	Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	:	Wear respiratory protection. Avoid breathing vapors, 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 contact with skin and eyes. 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

Components with Workplace Control Parameters

Value	Control Parameters	Basis
TWA	25.000000 mg/m^3	Canada. Alberta Occupational Health and Safety Code.
STEL	37.000000 mg/m^3	Canada. Alberta Occupational Health and Safety Code.
TWA	10.000000 ppm	Canada. British Columbia OEL
STEL	15.000000 ppm	Canada. British Columbia OEL
TWAEV	25.000000 mg/m^3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants.
STEV	37.000000 mg/m^3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants.
TWA	10.000000 mg/m^3	USA. ACGIH Threshold Limit Values (TLV)
STEL	15.000000 mg/m^3	USA. ACGIH Threshold Limit Values (TLV)

Personal Protective Equipment

Respiratory : Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).

Hand : Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eyes : Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and Body : Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Engineering Controls : Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquid

Colour : Colourless

pH : 2.4 at 60.05 g/L

Melting Point/Freezing Point : 16.2 °C (61.2 °F) - lit.

Boiling Point : 117 - 118 °C (243 - 244 °F) - lit.

Flash Point : 40.0 °C (104.0 °F) - closed cup

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)
Relative Density	:	1.049 g/cm^3 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 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

Skin – Rabbit: Causes severe burns.

Serious Eye Damage/Eye Irritation

Eyes – rabbit: Corrosive to eyes

Respiratory or Skin Sensitisation

No Data Available

Germ Cell Mutagenicity

No data available

Carcinogenicity

IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH : No component of this product present at levels greater than or equal to 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
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic Effects
No data available

Additional Information
No data available

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

Toxicity to Algae : No data available

Persistence and Degradability

Biodegradability : Aerobic – Exposure time 30 days
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
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

TDG (Canada)

UN Number: 2789 Class: 8(3) Packing Group: II
Proper shipping name: ACETIC ACID, GLACIAL
Poison Inhalation Hazard: No

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

15. REGULATORY INFORMATION

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
E	Corrosive Material	Corrosive Material

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

 The information contained in this SDS is believed to be correct at the time of revision and is subject to change without notice as new information is made available. The information should be used as a guide for safe handling, use, processing and storage. It does not guarantee any of the properties of the product. It is the user's responsibility to request updated SDS as required. Northernchem Inc. and its affiliates shall not be held liable for any damage resulting from handling or contact with the product. For proper handling and disposal, always comply with federal, provincial, and local regulations. For more information please visit www.northerncheminc.com.