Chief Medical Supplies Ltd.
411 – 19 Street, S. E.
Calgary, AB., Canada.
T2E 6J7
1.866.620.6034

Safety Data Sheet
Acetic Acid, AA50

Document No. M-D6-012

Section I – Product and Company Identification

Synonym: Methane carboxylic acid; Acetic acid, 50.0% solution (w/v)

CAS No.: 64-19-7

Molecular Weight: 60.05

Chemical Formula: CH_3COOH

Product Code: AA50

Company Identification:

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For information, call: 1-403-207-6034
Emergency Number: 1-403-207-6034

Section II – Hazards Identification

Appearance: Colorless liquid

Physical State: Liquid

Odor: vinegar odor

Hazards of Product: Corrosive, flammable liquid and vapor. Causes severe digestive and respiratory tract burns. Causes severe eye and skin burns. May be harmful if absorbed through the skin.

Potential Health Hazards

Eye: Causes severe eye irritation. Contact with liquid or vapor causes severe burns and possible irreversible eye damage.
Skin: Causes skin burns. May be harmful if absorbed through the skin. Contact with the skin may cause blackening and hyperkeratosis of the skin of the hands.
Ingestion: May cause severe and permanent damage to the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause polyuria, oliguria and anuria. Rapidly absorbed from the gastrointestinal tract.
Inhalation: Symptoms of exposure may include; nasal discharge, hoarseness, coughing, chest pain and breathing difficulty. Accumulation of fluid in the lungs (pulmonary edema) may occur.

Section III – Composition/Information on Ingredients

Ingredient Name	Chemical Formula	CAS No.	% by weight
Acetic acid	CH_3COOH	64-19-7	50% +/- 2%
Water	H_2O	7732-18-5	50% +/-2%

Section IV – First Aid Measures

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Section V – Fire Fighting Measures

Conditions of flammability: Flammable

Means of extinction: Not available

Flash point and method of determination: CLOSED CUP: 71 - 91 °C (159.8 - 195.8 °F)

Upper flammable limit: 19.9%

Lower flammable limit: 4%

Auto-ignition temperature: 516°C (916°F)

Hazardous combustion products: These products are carbon oxides (CO, CO2).

Explosion data - sensitivity to mechanical impact: Not available

Explosion data - sensitivity to static discharge: Not available

Fire Fighting Media and Instructions: Use DRY chemicals, CO2, alcohol foam or water spray.

Special Remarks on Fire Hazards: Reacts with metals to produces flammable hydrogen gas. It will ignite on contact with potassium-tert-butoxide. A mixture of ammonium nitrate and acetic acid ignites when warmed, especially if warmed.

Special Remarks on Explosion Hazards: Stay upwind. Isolate and restrict area access. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure build-up which could result in container rupture. Stop leak only if safe to do so. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. Water run-off and vapour cloud may be corrosive. Dike and collect water used to fight fire for neutralization before release. Water streams should not be directed to the liquid, as this will cause the liquid to boil and generate more vapour.

Section VI – Accidental Release Measures

Spill: Flush area with water to remove trace residue. Eliminate all ignition sources. Contain spill by diking. Absorb with an inert dry material and place in an appropriate waste disposal container. Neutralize the residue with sodium carbonate or crushed limestone. If fire potential exists, blanket spill with alcohol type aqueous film-forming foam or use water fog stream to disperse vapours.

Section VII – Handling and Storage

Handling Procedures: Protect from freezing. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers may contain hazardous product residues. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Use with adequate ventilation. Wash thoroughly after handling. Handle and open containers with care. Keep the containers closed when not in use.

Storage Requirements: Keep containers tightly closed. Store in a cool, dry, well-ventilated area, away from heat and ignition sources. Place away from incompatible materials. Store in accordance with good industrial practices. Store out of direct sunlight and on an impermeable floor.

Section VIII – Exposure Controls/Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Eyeware: Splash goggles
Gloves: Gloves
Clothing: Synthetic apron
Respirator: Vapor respirator

Exposure Limits: OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA); ACGIH Threshold Limit Value (TLV): 10 ppm (TWA); 15 ppm (STEL).

Section IX – Physical and Chemical Properties

Physical state: Liquid

Odour and appearance: Pungent, vinegar-like, strong sour

Odour threshold: Not available

Specific gravity: 1.045 (Water = 1)

Vapour pressure: 1.5 kPa (@ 20°C)

Vapour density: 2.07 (Air = 1)

Evaporation rate: Not available

Boiling point: 102-118°C (215.6-244.4°F)

Freezing point: -22 - (-8) °C (-8 -18 °F)

pH (1% soln/water): 0.5-2

Coefficient of water/oil distribution: Not Available

Taste: Vinegar, sour (Strong.)

Critical Temperature: 321.67°C (611°F)

Dispersion Properties: See solubility in water, diethyl ether, and acetone.

Solubility: Soluble in cold water, hot water, alcohol

Section X – Stability and Reactivity

Stability: Stable

Conditions to avoid: Heat, ignition sources, incompatible materials

Incompatible materials: Strong alkalis. Aldehydes. Ammonium nitrate. Carbonates. Oxides. Strong oxidizing agents. Common metals and their alloys. Hydroxides. Perchloric acid. Phosphates. Sodium peroxide.

Conditions of reactivity: Excessive heat, open flames and all ignition sources

Hazardous decomposition products: Toxic fumes. Irritating vapors. Oxides of carbon.

Corrosivity: Highly corrosive

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.

Section XI – Toxicological Information

Route of entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Effects of chronic exposure: May affect genetic material and may cause reproductive effects based on animal data. No human data found.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, mucous membranes, skin, and teeth.

Other Toxic Effects on Humans: Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive).

Irritancy of product: Not available

Sensitization to product: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Not available

Toxicologically synergistic products:

Toxicity to Animals: For Acetic Acid: Oral rat LD50: 3310 mg/kg. Dermal rabbit LD50: 1.06g/Kg. Inhalation mouse LC50: 5620 ppm/1 hr. Investigated as a mutagen, reproductive effector.

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Extremely irritating and corrosive. Causes skin irritation (reddening and itching, inflammation). May cause blistering, tissue damage and burns. Eyes: Extremely irritating and corrosive. Causes eye irritation, lacrimation, redness, and pain. May cause burns, blurred vision, conjunctivitis, conjunctival and corneal destruction and permanent injury. Inhalation: Causes severe respiratory tract irritation. Affects the sense organs (nose, ear, eye, taste), and blood. May cause chemical pneumonitis, bronchitis, and pulmonary edema. Severe exposure may result in lung tissue damage and corrosion (ulceration) of the mucous membranes. Inhalation may also cause rhinitis, sneezing, coughing, oppressive feeling in the chest or chest pain, dyspnea, wheezing, tachypnea, cyanosis, salivation, nausea, giddiness, muscular weakness. Ingestion: Moderately toxic. Corrosive. Causes gastrointestinal tract irritation (burning and pain of the mouth, throat, and abdomen, coughing, ulceration, bleeding, nausea, abdomial spasms, vomiting, hematemesis, diarrhea. May Also affect the liver (impaired liver function), behavior (convulsions, giddines, muscular weakness), and the urinary system - kidneys (Hematuria, Albuminuria, Nephrosis, acute renal failure, acute tubular necrosis). May also cause dyspnea or asphyxia. May also lead to shock, coma and death. Chronic Potential Health Effects: Chronic exposure via ingestion may cause blackening or erosion of the teeth and jaw necrosis, pharyngitis, and gastritis. It may also behavior (similar to acute ingestion), and metabolism (weight loss). Chronic exposure via inhalation may cause asthma and/or bronchitis with cough, phlegm, and/or shortness of breath. It may also affect the blood (decreased leukocyte count), and urinary system (kidneys). Repeated or prolonged skin contact may cause thickening, blackening, and cracking of the skin.

Section XII – Ecological Information

Ecotoxicity: The aquatic toxicity and biodegradation of acetic acid are expected to be influenced by its potential to lower pH.

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: Acetic acid will biodegrade readily if released to water (e.g., 5-Day BOD's 63-81%) or soil. The atmospheric photochemical degradation half-life is estimated to be 26.7 days.

Bioaccumulation: The log n-octanol water partition coefficient for acetic acid is -0.17. This suggests that acetic acid has low potential to bioaccumulate.

Special Remarks on the Products of Biodegradation: Not available.

Section XIII – Disposal Considerations

Waste disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section XIV – Transport Information

Special shipping information: UN2790 II

Transport of Dangerous Goods (TDG): ACETIC ACID SOLUTION

Department of Transportation (DOT): CLASS 8(3): Corrosive material; Flammable liquid.

International Maritime Dangerous Goods (IMO): None

International Civil Aviation Organization (ICAO): None

Section XV – Regulatory Information

WHIMIS classification: CLASS B-3: Combustible liquid. CLASS E: Corrosive material.

OSHA: Not available

SERA: Not available

TSCA: CAS# 64-19-7 is listed on the TSCA inventory.

Section XII – Ecological Information

SDS creation date: Mar 10, 2000
Last revision date: Jan 11, 2016

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Chief Medical Supplies be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Chief Medical Supplies has been advised of the possibility of such damages.

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR