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"Main" tech

**MATERIAL SAFETY DATA SHEET**

**ACETIC ACID**

**MSDS# 8001**

**SECTION 1. PRODUCT IDENTIFICATION**

PRODUCT NAME: ACETIC ACID CHEMICAL FORMULA: CH<sub>3</sub>COOH  
 SYNONYMS: (Acetic acid) methane carboxylic acid; ethanoic acid; vinegar acid; ethylic acid  
 CHEMICAL FAMILY: ACID

**SECTION 2. COMPOSITION INFORMATION ON INGREDIENTS**

| CHEMICAL NAMES | by v/v        | OSHA PEL | ACGIH TLV | CAS#    |
|----------------|---------------|----------|-----------|---------|
| ACETIC ACID    | → 99.5 - 100% | 10 PPM   | 10 PPM    | 64-19-7 |

**SECTION 3. HAZARDS IDENTIFICATION**

**PRECAUTIONARY RATINGS**

|              |  |
|--------------|--|
| 0 = LEAST    | HEALTH: 3                                  |
| 1 = SLIGHT   | FIRE: 2                                    |
| 2 = MODERATE | REACTIVITY: 0                              |
| 3 = HIGH     | SPECIFIC HAZARD: CORROSIVE (SEVERE)        |
| 4 = EXTREME  | EMERGENCY CONTACT: CHEMTREC (800) 424-9300 |

**Emergency Overview**

DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO EYES AND SKIN. POISON. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG AND TOOTH DAMAGE. FLAMMABLE LIQUID AND VAPOR.

**Potential Health Effects**

**Inhalation:**

Causes severe irritation, burns, and difficulty breathing. Exposure may lead to bronchitis, pharyngitis, and dental erosion. May be absorbed through the lungs.

**Ingestion:**

Swallowing can cause severe injury leading to death. Symptoms include nausea, sore throat, vomiting, and diarrhea. Ingestion of as little as 1.0 ml has resulted in perforation of the esophagus.

**Skin Contact:**

Causes severe burns. Symptoms include redness, pain, and burns.

**Eye Contact:**

May cause severe and permanent eye damage. Exposure to vapor may cause intense watering and irritation to eyes.

**SECTION 4. FIRST AID MEASURES**

**Eyes:** Flush opened eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention.

**Skin:** Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.

**Ingestion:** DO NOT induce vomiting. If victim is conscious and alert, give large quantities of milk or water. Never give anything by mouth to an unconscious person. Get medical attention.

**Inhalation:** Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**SECTION 5. FIRE FIGHTING MEASURES**

**Flash Point:** 40C (104F).

**Method Used:** Closed Cup.

**Lower Explosion Limits:** 4.0%.

**Upper Explosion Limits:** 16.0%.

**Autoignition temperature:** 427C (801F).

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide or chemical foam. Use water spray to keep fire exposed containers cool.

**Fire and Explosion Hazards:** Flammable Liquid and Vapor. Contact with strong oxidizers may cause fire. Reacts with most metals to produce explosive hydrogen gas.

**Fire Fighting Instructions:** Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Evacuate the area of all unnecessary personnel. Ventilate area of leak or spill. Remove all sources of ignition. Neutralize with dilute alkaline solutions such as soda ash or sodium bicarbonate. Absorb with suitable absorbent (e. g., vermiculite, dry sand, earth). May flush

small residues down the drain with excess water if regulations allow. Containerize for proper disposal in compliance with federal, state, and local regulations.

#### SECTION 7. HANDLING AND STORAGE

**Handling:** wash hands thoroughly after handling. Avoid contact with eyes and skin.

**Storage Requirements:** keep storage containers tightly closed in a cool dry place. Store above 17C to avoid freezing. Store away from heat and ignition sources. Do not store near alkaline materials.

#### SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:** Use adequate ventilation to keep exposure concentrations low.

**Respiratory Protection:** Use of a local exhaust system is recommended. Check with supplier or regulatory agency for appropriate NIOSH approved respirators.

**Skin Protection:** Chemical resistant gloves, lab coats.

**Eye Protection:** Safety glasses or goggles with side shields.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 118C

VAPOR PRESSURE (mmHg): 11 @ 20C

MELTING POINT: 16.6C

VAPOR DENSITY (air=1): 2.1

SPECIFIC GRAVITY: N/A

EVAPORATION RATE: 0.97

SOLUBILITY (H<sub>2</sub>O): INFINITELY SOLUBLE

pH: <.01

APPEARANCE & ODOR: COLORLESS LIQUID, WITH STRONG, VINEGAR-LIKE ODOR.

#### SECTION 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal conditions. Heat and sunlight can create instability. Releases heat and toxic, irritating vapors when mixed with water. Acetic acid contracts slightly upon freezing which may cause the container to burst.

**INCOMPATIBILITY:** Chromic acid, nitric acid, ethylene glycol, perchloric acid, phosphorous trichloride, oxidizers, sodium peroxide, strong caustics, most metals (except aluminum), carbonates, hydroxides, oxides, and phosphates.

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of Carbon.

**CONDITIONS TO AVOID:** HEAT, IGNITION SOURCES, FREEZING, INCOMPATIBLES.

#### SECTION 11. TOXICOLOGICAL INFORMATION

**RTECS#:**

CAS# 64-19-7: AF1225000

**LD50/LC50:**

CAS# 64-19-7:

Draize test, rabbit, skin: 50 mg/24H Mild;

Inhalation, mouse: LC50 = 5620 ppm/1HR;

Oral, rat: LD50 = 3310 mg/kg;

Skin, rabbit: LD50 = 1.06 g/kg.

#### SECTION 12. ECOLOGICAL INFORMATION

**Environmental Fate:**

Moderately degraded in air by reaction with photochemically produced hydroxyl radicals. Expected to have a half-life between 10 and 30 days in air. Expected to readily biodegrade in water with a half-life between 1 and 10 days. Standard dilution BOD5/TOD = 58%. Not expected to significantly bioaccumulate. Estimated bioconcentration factor (BCF) is less than 100.

**Environmental Toxicity:**

May be toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.

#### SECTION 13. DISPOSAL CONSIDERATIONS

**PREPARING WASTES FOR DISPOSAL:** DO NOT DUMP INTO FRESH AND/OR SALT WATER.

DO NOT DISPOSE NEAR/OR BY LANDFILL. ENSURE COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

#### SECTION 14. TRANSPORT INFORMATION

**DOMESTIC ( D.O.T. ) TRANSPORTATION REQUIREMENT:**

Classification: HAZARD 8, 3

**Proper Shipping Name:** ACETIC ACID, GLACIAL (WITH MORE THAN 80% ACID, BY MASS)

UN#: UN2789

Packing Group: II

#### SECTION 15. REGULATORY INFORMATION

**TSCA Inventory List:**

All of the ingredients (or their hydrate forms) are listed.

**CERCLA Reportable Quantity (RQ):**

CAS# 64-19-7: 5000 lb final RQ.

**SARA Section 302 Threshold Planning Quality (TPQ):**

None of the ingredients have a TPQ.

**SARA Title Codes:**

CAS # 64-19-7: acute, chronic, flammable.

**OSHA:**

This product is not considered to be highly hazardous by OSHA Hazard Communication Standard.

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SECTION 16. OTHER INFORMATION

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ALL INFORMATION RECOMMENDATIONS AND SUGGESTIONS APPEARING HEREIN CONCERNING OUR PRODUCT ARE BASED UPON TESTS AND DATA BELIEVED TO BE RELIABLE, HOWEVER IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS/HER OWN USE OF THE PRODUCT DESCRIBED HEREIN. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED, THAT THE INFORMATION IS CURRENT, APPLICABLE & SUITABLE TO THEIR CONDITIONS. SINCE THE ACTUAL USE BY OTHERS IS BEYOND OUR CONTROL. NO GUARANTEE, EXPRESSED OR IMPLIED IS MADE BY SHAPE PRODUCTS AS TO THE EFFECTS OF SUCH USE, SHAPE PRODUCTS DOES NOT ASSUME ANY LIABILITY ARISING OUT OF USE, BY OTHERS OF THE PRODUCTS REFERRED TO HEREIN. NOR IS THE INFORMATION HEREIN TO BE CONSTRUED AS ABSOLUTELY COMPLETE SINCE ADDITIONAL INFORMATION MAY BE NECESSARY OR DESIRABLE WHEN PARTICULAR OR EXCEPTIONAL CONDITIONS OR CIRCUMSTANCES EXIST OF BECAUSE OF APPLICABLE LAWS OR GOVERNMENT REGULATIONS. N/A= NOT AVAILABLE.