IDENTIFICATION

MSDS Record Number: 5617343
Product Name(s): Acetic Acid Solution
Product Identification: MSDS NUMBER: A0328
PRODUCT CODE: 0321, 2906
C.A.S. NUMBER: 64-19-7
Date of MSDS: 2007-05-11
Currency Note: This MSDS was acquired from the supplier on 2007-09-06.

MANUFACTURER/SUPPLIER INFORMATION

Company: MALLINCKRODT BAKER INC

MATERIAL SAFETY DATA

Effective Date: 05/11/07

Supercedes: 12/04/06

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MSDS MATERIAL SAFETY DATA SHEET
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From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Emergency Telephone Number: 908-859-2151

CHEMTREC: 800-424-9300 (USA)
703-527-3887 (Outside USA & CANADA)
CANUTEC: 613-996-6666

NOTE: Use CHEMTREC and CANUTEC phone numbers only in the event of a chemical emergency.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

M A L L I N C K R O D T J. T. B A K E R

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Acetic Acid Solution

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1. Product Identification

Synonyms: methane carboxylic acid; 80% Acetic Acid Solution
CAS No: 64-19-7
Molecular Weight: 60.05
Chemical Formula: CH₃COOH (80% in water)
bronchial tubes.

Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems, or impaired respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Hazard evaluation based upon pure (glacial) acetic acid. Hazards of dilute solutions may not be as severe as those of glacial acetic acid.
Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:
DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:
Flash point: > 93.3C (> 199F) CC
Autoignition temperature: 516C (961F)
Flammable limits in air % by volume:
lel: 4.0; uel: 19.9
Listed Flash Point is for 80% Acetic Acid tested by TAG closed cup method per ASTM D56. Listed fire data is for Glacial Acetic Acid. Combustible Liquid and Vapor!

Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Contact with strong oxidizers may cause fire. Reacts with most metals to produce hydrogen gas, which can form an explosive mixture with air.

Fire Extinguishing Media:
Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water diluted acid can react with metals to form hydrogen gas.

6. Accidental Release Measures
Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Physical data below refers to Acetic Acid Glacial. Boiling point listed is for 80% Acetic acid based on test results.

**Appearance:** Boiling Point:
Clear, colorless liquid. 102°C (216°F)

**Odor:** Melting Point:
Strong, vinegar-like. 16.6°C (63°F)

**Solubility:** Vapor Density (Air=1):
Infinitely soluble. 2.1

**Density:** Vapor Pressure (mm Hg):
1.069 11 @ 20°C (68°F)

**pH:** Evaporation Rate (BuAc=1):
2.4 (1.0M solution) 0.97

% Volatiles by volume @ 21°C (70°F): 100

10. Stability and Reactivity

**Stability:**
Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

**Hazardous Decomposition Products:**
Carbon dioxide and carbon monoxide may form when heated to decomposition. May also release toxic and irritating vapors.

**Hazardous Polymerization:**
Will not occur.

**Incompatibilities:**
Acetic Acid is incompatible with chromic acid, nitric acid, ethylene glycol, perchloric acid, phosphorous trichloride, oxidizers, sodium peroxide, strong caustics, most metals (except aluminum), carbonates, hydroxides, oxides, and phosphates.

**Conditions to Avoid:**
Heat, flame, ignition sources, freezing, incompatibles

11. Toxicological Information

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.

---NTP Carcinogen---

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5 of 8

11/2/2007 3:50 PM
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\`Chemical Inventory Status - Part 1\`

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\`Chemical Inventory Status - Part 2\`

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\`Federal, State & International Regulations - Part 1\`

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\`Federal, State & International Regulations - Part 2\`

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Chemical Weapons Convention: No
TSCA 12(b): No
CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No Reactivity: Yes (Mixture / Liquid)

Australian Hazchem Code: 2R
Australian Poison Schedule: S5

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

**NFPRA Ratings:**
Health: 3  Flammability: 1 Reactivity: 0

**Label Hazard Warning:**
POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG AND TOOTH DAMAGE. COMBUSTIBLE LIQUID AND VAPOR.

**Label Precautions:**
Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep away from heat, sparks and flame.

**Label First Aid:**
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give