1 PRODUCT AND COMPANY IDENTIFICATION

Vendor
RBP Chemical Technology Inc.
150 South 118th Street
PO Box 14069
Milwaukee, WI 53214-0069

Phone: (414) 258-0911
Fax: (414) 258-7908
Web: http://rbpchemical.com/

EMERGENCY (INFOTRAC): (800) 535-5053

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
  Health, Skin corrosion/irritation, 1 A
  Health, Serious Eye Damage/Eye Irritation, 1
  Physical, Flammable Liquids, 3

GHS Label elements, including precautionary statements
GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:
  H314 - Causes severe skin burns and eye damage
  H318 - Causes serious eye damage
  H226 - Flammable liquid and vapor

GHS Precautionary Statements:
  P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
  P233 - Keep container tightly closed.
  P240 - Ground/bond container and receiving equipment.
  P241 - Use explosion-proof electrical/ventilating/light/equipment.
  P242 - Use only non-sparking tools.
  P243 - Take precautionary measures against static discharge.
  P264 - Wash _ thoroughly after handling.
  P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.
**FIRST AID MEASURES**

**Inhalation:**
Give oxygen or artifical respiration if needed.

**Skin Contact:**
Promptly flush skin with water until all chemical is removed.

**Eye Contact:**
Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation. Get immediate medical attention.

**Ingestion:**
Do not induce vomiting. Drink large quantities of water. Bring to the attention of a physician.

**FIRE FIGHTING MEASURES**

**Flammability:**
Flammable

**Flash Point:**
102.2 F

**Flash Point Method:**
TCC

Wear self contained breathing apparatus and other protective clothing. Use any standard agent - choose the one most appropriate for type of surrounding fire.

**ACCIDENTAL RELEASE MEASURES**

Only attempt to contain spill, if able to do safe in a safe manner.

Wear full PPE.

Wear self contained breathing apparatus, rubber boots and heavy rubber gloves.

Large spills should be diked and collected.

Pick up excess with inert absorbant material and place into separate waste container.

**Waste Disposal Method**
Dispose of in accordance with local, state and federal regulations.
7 HANDLING AND STORAGE

Handling Precautions: Avoid contact with eyes, skin, or clothing. Avoid breathing vapors or mist. Store away from combustible materials. Do not expose containers to open flame, excessive heat, or direct sunlight. Keep away from sources of ignition. Wash thoroughly after handling.

Storage Requirements: Keep away from heat, sparks, and flames. Protect container and its fittings from physical damage. Store away from incompatibles. Store in cool/dry area.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use local exhaust at filling zones and where leakage is probable.

Personal Protective Equipment: HMIS PP, H | Splash Goggles, Gloves, Apron, Vapor Respirator

Acetic acid, glacial (64-19-7) [100%]

Components with workplace control parameters

TWA 10 ppm USA. ACGIH Threshold Limit Values (TLV)
Eye & Upper Respiratory Tract irritation
Pulmonary function

STEL 15 ppm USA. ACGIH Threshold Limit Values (TLV)
Eye & Upper Respiratory Tract irritation
Pulmonary function

ST 15 ppm USA. NIOSH Recommended Exposure Limits 37 mg/m3
TWA 10 ppm USA. NIOSH Recommended Exposure Limits 25 mg/m3
TWA 10 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air 25 mg/m3

The value in mg/m3 is approximate.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear
Physical State: Liquid
Odor Threshold: ND
Spec Grav./Density: 1.04
Viscosity: ND
Boiling Point: 246.6 F
Flammability: Flammable
Partition Coefficient: ND
Vapor Pressure: ND
Odor: Pungent
Solubility: Complete
Freezing/Melting Pt.: ND
Flash Point: 102.2 F (TCC)
Vapor Density: ND
Bulk Density: 8.7 lbs/gal
Auto-Ignition Temp: ND
UFL/LFL: ND
### 10 STABILITY AND REACTIVITY

**Stability:** Product is stable under normal conditions.

**Conditions to Avoid:** Excessive Heat. Heat, sparks, open flames Incompatible Materials.

**Materials to Avoid:** Alkalis; Metals; Oxidizable Materials; Reducing agents; Carbon Monoxide/Dioxide.

**Hazardous Decomposition:** Will not occur.

### 11 TOXICOLOGICAL INFORMATION

**Acetic acid, glacial (64-19-7) [100%]**

Information on toxicological effects

Acute toxicity:
- LD50 Oral - rat - 3,310 mg/kg
- LC50 Inhalation - rat - 4 h - 11.4 mg/l
- LD50 Dermal - rabbit - 1,112 mg/kg
- no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: Eyes - rabbit Result: 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.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: 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

Additional Information:

RTECS: AF1225000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasms, inflammation and edema of the larynx, spasms, 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.

Stomach - Irregularities - Based on Human Evidence

<table>
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<tr>
<th>ECOLOGICAL INFORMATION</th>
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<tbody>
<tr>
<td><strong>Acetic acid, glacial (64-19-7) [100%]</strong></td>
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<tr>
<td>Information on ecological effects</td>
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<tr>
<td><strong>Toxicity:</strong></td>
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<tr>
<td>Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - &gt; 1,000 mg/l -: 96 h (OECD Test Guideline 203)</td>
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<tr>
<td>Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - &gt; 300.82 mg/l - 48 h. other aquatic (OECD Test Guideline 202) invertebrates</td>
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<tr>
<td>Persistence and degradability: Biodegradability aerobic - Exposure time 30 d Result: 99 % - Readily biodegradable</td>
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<td>Remarks: Expected to be biodegradable</td>
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<tr>
<td>Biochemical Oxygen 880 mg/g Demand (BOD)</td>
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<td>Bioaccumulative potential: no data available</td>
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<td>Mobility in soil: no data available</td>
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<tr>
<td>Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted</td>
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<tr>
<td>Other adverse effects: Additional ecological no data available information</td>
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<th>DISPOSAL CONSIDERATIONS</th>
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<td>Dispose of in accordance with local regulations.</td>
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<th>TRANSPORT INFORMATION</th>
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<tr>
<td>UN2789, Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass, 8,(3), PGII</td>
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<tr>
<td>IATA: UN2789, ACETIC ACID, GLACIAL, 8(3), II, 855</td>
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<tr>
<td>COMPONENT / (CAS/PERC) / CODES</td>
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<tr>
<td>*Acetic acid, glacial (64197 100%)CERCLA, CSWHS, HAP, MASS, OSHAWAC, PA, TSCA, TXAIR</td>
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<tr>
<td>REGULATORY KEY DESCRIPTIONS</td>
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OTHER INFORMATION

This document was composed and approved by qualified RBP Chemical Technology Inc. personnel.

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The above information is not claiming characteristics of the product in term of legal claims of performance / guarantee.

This information only describes safety measures and no liability may arise from the use or application of the product described herein.

This information is given in good faith and based on our current knowledge of the product.