## SECTION 1: Identification

### 1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>Acetic Acid</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>64-19-7</td>
</tr>
<tr>
<td>Product code</td>
<td>LC10100</td>
</tr>
<tr>
<td>Formula</td>
<td>C2H4O2</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Acetic acid, glacial / alcohol of vinegar / carboxylic acid C2 / ethanoic acid / ethylic acid / methanecarboxylic acid / pyroligneous acid / vinegar acid</td>
</tr>
</tbody>
</table>

### 1.2. Recommended use and restrictions on use

Use of the substance/mixture: Chemical intermediate, Solvent, Food industry: additive, Laboratory chemical, Photographic chemical

Recommended use: Laboratory chemicals

Restrictions on use: Not for food, drug or household use

### 1.3. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

### 1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300 or +1-703-741-5970

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>GHS US classification</th>
<th>H statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids Category 3</td>
<td>H226 Flammable liquid and vapor</td>
</tr>
<tr>
<td>Acute toxicity (inhalation:vapor) Category 4</td>
<td>H332 Harmful if inhaled</td>
</tr>
<tr>
<td>Skin corrosion/irritation Category 1B</td>
<td>H314 Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation Category 1</td>
<td>H318 Causes serious eye damage</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment - Acute Hazard Category 3</td>
<td>H402 Harmful to aquatic life</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16

### 2.2. GHS Label elements, including precautionary statements

#### GHS US labeling

- Hazard pictograms (GHS US): [indicating symbols]
- Signal word (GHS US): Danger
- Hazard statements (GHS US): H226 - Flammable liquid and vapor, H314 - Causes severe skin burns and eye damage, H332 - Harmful if inhaled, H402 - Harmful to aquatic life
- Precautionary statements (GHS US): 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, lighting equipment, P242 - Use only non-sparking tools, P243 - Take precautionary measures against static discharge.
Acetic Acid
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P260 - Do not breathe mist, vapors, spray.
P264 - Wash exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves, 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 person to fresh air and keep comfortable 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.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use carbon dioxide (CO2), powder, alcohol-resistant foam to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations.

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Substance type : Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>(CAS-No.) 64-19-7</td>
<td>100</td>
<td>Flam. Liq. 3, H226</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Inhalation: vapour), H332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 3, H402</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation : Remove the victim into fresh air. Immediately consult a doctor/medical service. Doctor: administration of corticoid spray.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents without medical advice. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not apply (chemical) neutralizing agents without medical advice. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Causes severe skin burns. Causes serious eye damage.

Symptoms/effects after skin contact: Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact: Corrosion of the eye tissue.


Chronic symptoms: Affection/discolouration of the teeth.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD. Flammable liquid and vapour. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire: Upon combustion: CO and CO2 are formed.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Clean up any spills as soon as possible, using an absorbent material to collect it.

6.1.1. For non-emergency personnel


6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute combustible/toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up: Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Flammable vapors may accumulate in the container.
Precautions for safe handling: Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Exhaust gas must be neutralised. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed.

Hygiene measures: Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Direct sunlight. Heat sources. Sources of ignition.
Storage temperature: > 17 °C
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Acetic acid</td>
</tr>
<tr>
<td>ACGIH TWA (mg/m³)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>ACGIH TWA (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>ACGIH STEL (mg/m³)</td>
<td>37 mg/m³</td>
</tr>
<tr>
<td>ACGIH STEL (ppm)</td>
<td>15 ppm</td>
</tr>
<tr>
<td>Remark (ACGIH)</td>
<td>TLV® Basis: URT &amp; eye irr; pulm func</td>
</tr>
<tr>
<td>Regulatory reference</td>
<td>ACGIH 2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>USA - OSHA - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Acetic acid</td>
</tr>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>OSHA PEL (TWA) (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Regulatory reference (US-OSHA)</td>
<td>OSHA Annotated Table Z-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>USA - IDLH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>US IDLH (ppm)</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>USA - NIOSH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>NIOSH REL (TWA) (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>NIOSH REL (STEL) (mg/m³)</td>
<td>37 mg/m³</td>
</tr>
<tr>
<td>NIOSH REL (STEL) [ppm]</td>
<td>15 ppm</td>
</tr>
</tbody>
</table>
8.2. Appropriate engineering controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Material should be handled in a laboratory hood whenever possible.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:


Materials for protective clothing:

GIVE LESS RESISTANCE: natural rubber. GIVE POOR RESISTANCE: polyethylene. PVA

Hand protection:

Protective gloves against chemicals (EN 374)

Eye protection:

Protective goggles (EN 166)

Skin and body protection:

Head/neck protection. Corrosion-proof clothing (EN 14605)

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit. High vapour/gas concentration: compressed air apparatus (EN 136 + EN 137)

Personal protective equipment symbol(s):

Thermal hazard protection:

None necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odor</td>
<td>Irritating/pungent odour</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>2.4 (0.1 mol/l)</td>
</tr>
<tr>
<td>Melting point</td>
<td>17 °C (1013 hPa)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>118 °C (1013 hPa)</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>322 °C</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>45300 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>39 °C (1013 hPa)</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>0.97</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>11</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>20.79 hPa (25 °C)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>2.1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.04 (25 °C)</td>
</tr>
<tr>
<td>Relative density of saturated gas/air mixture</td>
<td>1</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>1040 kg/m³ (25 °C)</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>60.05 g/mol</td>
</tr>
</tbody>
</table>
Acetic Acid
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  - Water: 60.3 g/100ml (25 °C)
  - Ethanol: complete
  - Ether: complete
  - Acetone: complete

Log Pow: -0.17 (Experimental value, 25 °C)

Auto-ignition temperature: 463 °C (1013 hPa)

Decomposition temperature: No data available in the literature

Viscosity, kinematic: 1.168 mm²/s

Viscosity, dynamic: 1.056 mPa·s (25 °C)

Explosion limits: 4 – 19.9 vol %
  - Lower explosive limit (LEL): 4 vol %
  - Upper explosive limit (UEL): 19.9 vol %

Explosive properties: No data available.

Oxidizing properties: No data available.

Specific conductivity: 500000 pS/m (0 °C)

VOC content: 100 %

Other properties: Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity
Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) bases.

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
Reacts violently with (some) bases: release of heat.

10.4. Conditions to avoid
Extremely high or low temperatures. Incompatible materials.

10.5. Incompatible materials
May react violently with alkalis. May react with bases, copper, silver, mercury, magnesium, zinc and their alloys.

10.6. Hazardous decomposition products
Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Harmful if inhaled.

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>3310 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 6 day(s))</td>
</tr>
<tr>
<td>LC50 Inhalation - Rat</td>
<td>11.4 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours), 14 day(s))</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>3310 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>11.4 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>11.4 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns.
  - pH: 2.4 (0.1 mol/l)

Serious eye damage/irritation: Causes serious eye damage.
  - pH: 2.4 (0.1 mol/l)

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified
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Carcinogenicity: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: 1.168 mm²/s

Likely routes of exposure: Inhalation. Skin and eye contact.

Potential Adverse human health effects and symptoms:
Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Causes severe skin burns. Causes serious eye damage.

Symptoms/effects after skin contact: Caustic burns/corrosion of the skin.
Symptoms/effects after eye contact: Corrosion of the eye tissue.
Chronic symptoms: Affection/discolouration of the teeth.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Acetic Acid (64-19-7)
LC50 fish 1 > 1000 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1 > 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability
Persistce and degradability: Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD): 0.6 – 0.74 g O₂/g substance
Chemical oxygen demand (COD): 1.03 g O₂/g substance
ThO: 1.07 g O₂/g substance

12.3. Bioaccumulative potential

Acetic Acid (64-19-7)
BCF fish 1 3.16 (Pisces, Fresh water, QSAR)
Log Pow -0.17 (Experimental value, 25 °C)
Bioaccumulative potential: Not bioaccumulative.

12.4. Mobility in soil
Acetic Acid (64-19-7)
Surface tension: 26.3 mN/m (30 °C)
Ecology - soil: Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects
No additional information available
# Acetic Acid

## Safety Data Sheet

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## SECTION 13: Disposal considerations

### 13.1. Disposal methods

<table>
<thead>
<tr>
<th>Waste disposal recommendations</th>
<th>Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.</th>
</tr>
</thead>
</table>

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

| Transport document description | UN2789 Acetic acid, glacial (with more than 80 percent acid, by mass), 8 (3), II |
| UN-No.(DOT) | UN2789 |
| Proper Shipping Name (DOT) | Acetic acid, glacial with more than 80 percent acid, by mass |
| Transport hazard class(es) (DOT) | 8 - Class 8 - Corrosive material 49 CFR 173.136 |
| Packing group (DOT) | II - Medium Danger |
| Subsidiary risk (DOT) | 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Hazard labels (DOT) | 8 - Corrosive 3 - Flammable liquid |

### DOT Packaging Non Bulk (49 CFR 173.xxx)

| DOT Packaging Non Bulk (49 CFR 173.xxx) | 202 |

### DOT Packaging Bulk (49 CFR 173.xxx)

| DOT Packaging Bulk (49 CFR 173.xxx) | 243 |

### DOT Special Provisions (49 CFR 172.102)

| DOT Special Provisions (49 CFR 172.102) | A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.  
A6 - For combination packaging, if plastic inner packaging are used, they must be packed in tightly closed metal receptacles before packing in outer packaging.  
A7 - Steel packaging must be corrosion-resistant or have protection against corrosion.  
A10 - When aluminum or aluminum alloy construction materials are used, they must be resistant to corrosion.  
B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.  
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50°C (1.1 bar at 122 F), or 130 kPa at 55°C (1.3 bar at 131 F) are authorized.  
T7 - 4 178.274(d)(2) Normal............. 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, Tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (Tf) and the maximum mean bulk temperature during transportation (Tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15°C (59 F) and 50°C (122 F), respectively. |

### DOT Packaging Exceptions (49 CFR 173.xxx)

| DOT Packaging Exceptions (49 CFR 173.xxx) | 154 |

### DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | 1 L |

### DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | 30 L |

### DOT Vessel Stowage Location

| DOT Vessel Stowage Location | A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel. |

### Other information

| Other information | No supplementary information available. |
**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
<tr>
<td>Not subject to reporting requirements of the United States SARA Section 313</td>
<td></td>
</tr>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>5000 lb</td>
</tr>
</tbody>
</table>
| SARA Section 311/312 Hazard Classes | Physical hazard - Flammable (gases, aerosols, liquids, or solids)  
| | Health hazard - Skin corrosion or Irritation  
| | Health hazard - Serious eye damage or eye irritation  
| | Health hazard - Acute toxicity (any route of exposure) |

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

**15.2. International regulations**

**CANADA**

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
<td></td>
</tr>
</tbody>
</table>

**EU-Regulations**

- No additional information available

**National regulations**

- No additional information available

**15.3. US State regulations**

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

**SECTION 16: Other information**

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H226</th>
<th>Flammable liquid and vapor</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating

**Health**

3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

**Flammability**

2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

**Physical**

0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

**Personal protection**

H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

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