Acetic Acid, 50% v/v (1+1)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 12/11/2013 Revision date: 09/19/2016 Supersedes: 12/11/2013 Version: 1.1

SECTION 1: Identification

1.1. Identification
Product form : Mixture
Product name : Acetic Acid, 50% v/v (1+1)
Product code : LC10290

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : For laboratory and manufacturing use only

1.3. Details of the supplier of the safety data sheet
LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
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 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin corrosion/irritation Category 1B H314
Serious eye damage/eye irritation Category 1 H318
Hazardous to the aquatic environment - Acute Hazard Category 3 H402
Full text of H statements : see section 16

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H402 - Harmful to aquatic life
Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapors, spray
P264 - Wash exposed skin thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves, eye 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
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center or doctor/physician
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards
Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)
Not applicable
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SECTION 3: Composition/Information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>50.4</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>(CAS No) 64-19-7</td>
<td>49.6</td>
<td>Flam. Liq. 3, H226&lt;br&gt;Skin Corr. 1B, H314&lt;br&gt;Eye Dam. 1, H318&lt;br&gt;Aquatic Acute 3, H402</td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation: Allow victim to breathe fresh air. Allow the victim to rest. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.
First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries: Causes severe skin burns and eye damage.
Symptoms/injuries after eye contact: Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed
Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture
Reactivity: Thermal decomposition generates: Corrosive vapors.

5.3. Advice for firefighters
Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
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
6.1.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray.

Hygiene measures: Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations.
Storage conditions: Keep container closed when not in use.
Incompatible materials: Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (ppm)</th>
<th>10 ppm (Acetic acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>15 ppm (Acetic acid; USA; Short time value; TLV - Adopted Value)</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>OSHA</td>
<td>OSHA PEL (TWA)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>IDLH</td>
<td>US IDLH (ppm)</td>
<td>50 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA)</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (TWA)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (STEL)</td>
<td>37 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>NIOSH REL (STEL)</td>
<td>15 ppm</td>
</tr>
</tbody>
</table>

Water (7732-18-5)
Not applicable

8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection: Wear protective gloves.
Eye protection: Chemical goggles or face shield.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: Wear appropriate mask.
Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Color: Colorless
Odor: Vinegar odour
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Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Non flammable.
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: No data available
Specific gravity / density: 1.06 g/ml
Solubility: Soluble in water.
Log Pow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: 2 cSt
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability
Stable under normal conditions.

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

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
Strong oxidizers. metals. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure: Inhalation; Skin and eye contact
Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Acetic Acid, 50% v/v (1+1)</th>
<th>LD50 oral rat</th>
<th>2138 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>2138.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>LD50 oral rat</th>
<th>3310 mg/kg body weight (Rat; Other; Read-across)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATE US (oral)</td>
<td>3310.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th>LD50 oral rat</th>
<th>≥ 90000 mg/kg</th>
</tr>
</thead>
</table>
Acetic Acid, 50% v/v (1+1)

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<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.
Symptoms/injuries after eye contact: Causes serious eye damage.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

**Acetic Acid, 50% v/v (1+1)**

Persistence and degradability: Not established.

**Acetic Acid (64-19-7)**

Biochemical oxygen demand (BOD): 0.6 - 0.74 g O₂/g substance
Chemical oxygen demand (COD): 1.03 g O₂/g substance
ThOD: 1.07 g O₂/g substance

**Water (7732-18-5)**

Persistence and degradability: Not established.

12.3. Bioaccumulative potential

**Acetic Acid, 50% v/v (1+1)**

Bioaccumulative potential: Not established.

**Acetic Acid (64-19-7)**

BCF fish 1: 3.16 (BCF; Pisces)
Log Pow: -0.17 (Experimental value; 25 °C)
Bioaccumulative potential: Low potential for bioaccumulation (Log Kow < 4).

**Water (7732-18-5)**

Bioaccumulative potential: Not established.

12.4. Mobility in soil

**Acetic Acid (64-19-7)**

Surface tension: 0.028 N/m (20 °C)
Log Koc: log Koc,0.06; QSAR
Ecology - soil: May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Effect on the global warming: No known effects from this product.
GWPmix comment: No known effects from this product.
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Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2790 Acetic acid solution (not less than 50 percent but not more than 80 percent acid, by mass), 8, II

UN-No.(DOT) : UN2790
Proper Shipping Name (DOT) : Acetic acid solution not less than 50 percent but not 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
Hazard labels (DOT) : 8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
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
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) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
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 : No supplementary information available.
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SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Acetic Acid, 50% v/v (1+1)</th>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Immediate (acute) health hazard</th>
</tr>
</thead>
</table>

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

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>RQ (Reportable quantity, section 304 of EPA's List of Lists)</th>
<th>5000 lb</th>
</tr>
</thead>
</table>

15.2. International regulations

CANADA

<table>
<thead>
<tr>
<th>Acetic Acid, 50% v/v (1+1)</th>
<th>WHMIS Classification</th>
<th>Class E - Corrosive Material</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class B Division 3 - Combustible Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHMIS Classification</td>
<td>Class E - Corrosive Material</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th>WHMIS Classification</th>
<th>Uncontrolled product according to WHMIS classification criteria</th>
</tr>
</thead>
</table>

EU-Regulations

No additional information available

National regulations

<table>
<thead>
<tr>
<th>Acetic Acid (64-19-7)</th>
<th>Listed on the Canadian IDL (Ingredient Disclosure List)</th>
</tr>
</thead>
</table>

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

Revision date : 09/19/2016

Other information : None.

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>H402</td>
<td>Harmful to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

NFPA health hazard
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HMIS III Rating
- Health: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability: 0 Minimal Hazard - Materials that will not burn
- 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

SDS US LabChem

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