1. Identification

**Product identifier**  
SODIUM ACETATE-2M ACETIC ACID BUFFER

**Other means of identification**

- **Product code**: 385
- **Synonyms**: ACETATE BUFFER
- **Recommended use**: professional, scientific and technical activities: other professional, scientific and technical activities
- **Recommended restrictions**: None known.

**Manufacturer/Importer/Supplier/Distributor information**

- **Manufacturer**: GFS Chemicals, Inc.
- **Address**: P.O. Box 245, Powell, OH 43065, United States
- **Telephone**: Phone 740-881-5501, Toll Free 800-858-9682, Fax 740-881-5989
- **Website**: www.gfschemicals.com
- **E-mail**: service@gfschemicals.com
- **Emergency phone number**: Emergency Assistance Chemtrec 800-424-9300

2. Hazard(s) identification

**Physical hazards**  
Not classified.

**Health hazards**

- **Skin corrosion/irritation**: Category 2
- **Serious eye damage/eye irritation**: Category 1
- **Sensitization, respiratory**: Category 1
- **Specific target organ toxicity, single exposure**: Category 1 (blood, respiratory system)

**Environmental hazards**  
Not classified.

**OSHA defined hazards**  
Not classified.

**Label elements**

- **Signal word**: Danger
- **Hazard statement**: Causes skin irritation. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs (blood, respiratory system).
- **Precautionary statement**
  - **Prevention**: Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
  - **Response**: IF ON SKIN: Wash with plenty of soap and water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
  - **Storage**: Store locked up.
  - **Disposal**: Not available.
- **Hazard(s) not otherwise classified (HNOC)**
  - None known.
- **Supplemental information**: None.

---

Material name: SODIUM ACETATE-2M ACETIC ACID BUFFER  
Version #: 01  
Revision date: Issue date: June-11-2015
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td></td>
<td></td>
<td>50 - &lt; 60*</td>
</tr>
<tr>
<td>SODIUM ACETATE, TRIHYDRATE</td>
<td>6131-90-4</td>
<td></td>
<td></td>
<td>30 - &lt; 40*</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td>64-19-7</td>
<td>GLACIAL ACETIC ACID ETHANOIC ACID</td>
<td></td>
<td>10 - &lt; 20*</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

**Inhalation**

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**Skin contact**

Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Eye contact**

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Ingestion**

Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing. Skin irritation. May cause redness and pain.

**Indication of immediate medical attention and special treatment needed**

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information**

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

**Suitable extinguishing media**

Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**

Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**

During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**

Move containers from fire area if you can do so without risk.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**

No unusual fire or explosion hazards noted.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.
7. Handling and storage

**Precautions for safe handling**
Do not breathe mist or vapor. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**
Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACETIC ACID (CAS 64-19-7)</td>
<td>PEL</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

**US. ACGIH Threshold Limit Values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACETIC ACID (CAS 64-19-7)</td>
<td>STEL</td>
<td>15 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

**US. NIOSH: Pocket Guide to Chemical Hazards**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACETIC ACID (CAS 64-19-7)</td>
<td>STEL</td>
<td>37 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>15 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**
Wear appropriate chemical resistant gloves.

**Other**
Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**
In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**
Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

**Appearance**

**Physical state**
Liquid.

**Form**
Liquid.

**Color**
Colorless.

**Odor**
Not available.

**Odor threshold**
Not available.

**pH**
Not available.

**Melting point/freezing point**
< 32 °F (< 0 °C) estimated

**Initial boiling point and boiling range**
217 °F (103 °C) estimated

**Flash point**
Not available.

**Evaporation rate**
Not available.

**Flammability (solid, gas)**
Not available.
Upper/lower flammability or explosive limits

Flammability limit - upper (%)
Not available.

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.

Vapor pressure
3.54 hPa estimated

Vapor density
Not available.

Relative density
Not available.

Solubility(ies)

Solubility (water)
Not available.

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.

Decomposition temperature
Not available.

Viscosity
Not available.

Other information

Density
1.1 g/cm³

Percent volatile
68 % estimated

Specific gravity
1.1

10. Stability and reactivity

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause damage to organs by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.

Skin contact
Causes skin irritation.

Eye contact
Causes serious eye damage.

Ingestion
Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>9217.3916 mg/kg estimated</td>
</tr>
<tr>
<td>Guinea pig</td>
<td>43478.2617 mg/l, 1 Hours estimated</td>
</tr>
<tr>
<td>Mouse</td>
<td>48869.5664 mg/l, 1 Hours estimated</td>
</tr>
<tr>
<td>Rat</td>
<td>99.1304 mg/l, 4 Hours estimated</td>
</tr>
</tbody>
</table>

SODIUM ACETATE-2M ACETIC ACID BUFFER (CAS Mixture)

Material name: SODIUM ACETATE-2M ACETIC ACID BUFFER

385    Version #: 01    Revision date:  Issue date: June-11-2015 4 / 8
<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Mouse</td>
<td>28343 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Oral Rabbit</td>
<td>10434.7822 mg/kg estimated</td>
<td></td>
</tr>
<tr>
<td>Oral Rat</td>
<td>10937.5 mg/kg estimated</td>
<td></td>
</tr>
<tr>
<td>Other LD50 Mouse</td>
<td>4565.2173 mg/kg estimated</td>
<td></td>
</tr>
<tr>
<td>Other Rabbit</td>
<td>10434.7822 mg/kg estimated</td>
<td></td>
</tr>
</tbody>
</table>

### Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
</table>

**ACETIC ACID (CAS 64-19-7)**

**Acute**

**Dermal**

| LD50 | Rabbit | 1060 mg/kg |

**Inhalation**

| LC50 | Guinea pig | 5000 mg/l, 1 Hours |
| Mouse | 5620 mg/l, 1 Hours |
| Rat | 11.4 mg/l, 4 Hours |

**Oral**

| LD50 | Mouse | 4960 mg/kg |
| Rabbit | 1200 mg/kg |
| Rat | 3.53 g/kg |
| 3.31 g/kg |

**Other**

| LD50 | Mouse | 525 mg/kg |
| Rabbit | 1200 mg/kg |

**SODIUM ACETATE, TRIHYDRATE (CAS 6131-90-4)**

**Acute**

**Oral**

| LD50 | Mouse | 4960 mg/kg |
| Rat | 3530 mg/kg |
| 3500 mg/kg |

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitization**

This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity**

- **single exposure**

Causes damage to organs (blood, respiratory system).

- **repeated exposure**

Not classified.

**Aspiration hazard**

Not available.

**Chronic effects**

Prolonged inhalation may be harmful.

### 12. Ecological information

**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
### Test Results

**Species**

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM ACETATE-2M ACETIC ACID BUFFER (CAS Mixture)</td>
<td><strong>Aquatic</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crustacea</td>
<td>EC50</td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50</td>
</tr>
</tbody>
</table>

**Aquatic**

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water flea (Daphnia magna)</td>
<td>65 mg/l, 48 hours</td>
</tr>
<tr>
<td>Bluegill (Lepomis macrochirus)</td>
<td>75 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

### Persistence and degradability

No data is available on the degradability of this product.

### Bioaccumulative potential

No data available.

### Partition coefficient n-octanol / water (log Kow)

ACETIC ACID -0.17

### Mobility in soil

No data available.

### Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Hazardous waste code**

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**DOT**

**UN number**

UN2790

**UN proper shipping name**

Acetic acid solution, with more than 10 percent and less than 50 percent acid, by mass

**Transport hazard class(es)**

<table>
<thead>
<tr>
<th>Class</th>
<th>Subsidiary risk</th>
<th>Label(s)</th>
<th>Packing group</th>
<th>Special precautions for user</th>
<th>Special provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-</td>
<td>8</td>
<td>III</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
<td>IB3, T4, TP1</td>
</tr>
</tbody>
</table>

**Packaging exceptions**

154

**Packaging non bulk**

203

**Packaging bulk**

242

**IATA**

**UN number**

UN2790

**UN proper shipping name**

Acetic acid solution more than 10% but less than 50% acid, by weight

**Transport hazard class(es)**

<table>
<thead>
<tr>
<th>Class</th>
<th>Subsidiary risk</th>
<th>Packing group</th>
<th>Environmental hazards</th>
<th>ERG Code</th>
<th>Special precautions for user</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-</td>
<td>III</td>
<td>No.</td>
<td>8L</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
</tbody>
</table>
Other information

Passenger and cargo aircraft
Allowed.

Cargo aircraft only
Allowed.

IMDG

UN number
UN2790

UN proper shipping name
ACETIC ACID SOLUTION more than 10% and less than 50% acid, by mass

Transport hazard class(es)

Class
8

Subsidiary risk
-

Packing group
III

Environmental hazards
No.

Marine pollutant
No.

EmS
F-A, S-B

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

DOT

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
ACETIC ACID (CAS 64-19-7) Listed.

SARA 304 Emergency release notification
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312
No

Hazardous chemical
SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
ACETIC ACID (CAS 64-19-7)
US. New Jersey Worker and Community Right-to-Know Act
ACETIC ACID (CAS 64-19-7)
US. Pennsylvania Worker and Community Right-to-Know Law
ACETIC ACID (CAS 64-19-7)
US. Rhode Island RTK
ACETIC ACID (CAS 64-19-7)
US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: June-11-2015
Version #: 01

Disclaimer
GFS Chemicals cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group