1 Identification

· Product identifier
  · Trade name: ACETATE BUFFER, 0.2M, pH 5.6
  · Article number: 11482-56
· Application of the substance / the mixture Laboratory chemicals

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier: Electron Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400 Fax: 215-412-8450
    email: info@emsdiasum.com
    www.emsdiasum.com

· Information department: Product safety department
· Emergency telephone number: ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture
  
  GHS02 Flame
  Flammable Liquids 3 H226 Flammable liquid and vapor.

  GHS06 Skull and crossbones
  Acute Toxicity - Oral 2 H300 Fatal if swallowed.
  Acute Toxicity - Dermal 2 H310 Fatal in contact with skin.
  Acute Toxicity - Inhalation 2 H330 Fatal if inhaled.

· Label elements
  · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
  · Hazard pictograms
  
  GHS02 GHS06

· Signal word Danger

· Hazard-determining components of labeling:
  SODIUM ACETATE TRIHYDRATE
· Hazard statements
  Flammable liquid and vapor.
  Fatal if swallowed, in contact with skin or if inhaled.
· Precautionary statements
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not get in eyes, on skin, or on clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
If swallowed: Immediately call a poison center/doctor.
Rinse mouth.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Specific treatment is urgent (see on this label).
Take off immediately all contaminated clothing and wash it before reuse.
In case of fire: Use CO2, powder or water spray to extinguish.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· Classification system:
· NFPA ratings (scale 0 - 4)

3
2
0
Health = 3
Fire = 2
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH
Fire = 3
Health = 3
Reactivity = 0

FIRE
Reactivity = 0

· Other hazards
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

3 Composition/information on ingredients
· Chemical characterization: Mixtures
· Description: Mixture of the substances listed below with nonhazardous additions.
· Dangerous components:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>6131-90-4</td>
<td>SODIUM ACETATE TRIHYDRATE</td>
<td>&gt;2.5 - ≤10%</td>
</tr>
</tbody>
</table>

4 First-aid measures
· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  Remove breathing apparatus only after contaminated clothing have been completely removed.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

- **After inhalation:**
  Supply fresh air or oxygen; call for doctor.
  In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
  - **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
  Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

  **PAC-1:**
  - 6131-90-4 SODIUM ACETATE TRIHYDRATE 11 mg/m³
  - 64-19-7 Acetic Acid Glacial 5 ppm

  **PAC-2:**
  - 6131-90-4 SODIUM ACETATE TRIHYDRATE 120 mg/m³
  - 64-19-7 Acetic Acid Glacial 35 ppm

  **PAC-3:**
  - 6131-90-4 SODIUM ACETATE TRIHYDRATE 690 mg/m³
  - 64-19-7 Acetic Acid Glacial 250 ppm
7 Handling and storage

- Handling:
- Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
  Prevent formation of aerosols.
- Information about protection against explosions and fires:
  Keep ignition sources away - Do not smoke.
  Protect from heat.
  Protect against electrostatic charges.
  Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
- Further information about storage conditions:
  Keep receptacle tightly sealed.
  Protect from heat and direct sunlight.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing.
    Wash hands before breaks and at the end of work.
    Store protective clothing separately.
    Avoid contact with the eyes and skin.
  - Breathing equipment:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
  - Protection of hands:
    Protective gloves
    The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
    Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:
Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Liquid
  - Color: Clear
  - Odor: Pungent
  - Odor threshold: Not determined.
- pH-value at 20 °C (68 °F): 5.6
- Change in condition
  - Melting point/Melting range: 0 °C (32 °F)
  - Boiling point/Boiling range: 118 °C (244.4 °F)
- Flash point: 43 °C (109.4 °F)
- Flammability (solid, gaseous): Flammable.
- Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)
- Density at 20 °C (68 °F): 1 g/cm³ (8.345 lbs/gal)
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with
  - Water: Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

<table>
<thead>
<tr>
<th>Kinematic:</th>
<th>Not determined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent content:</td>
<td></td>
</tr>
<tr>
<td>Organic solvents:</td>
<td>0.8 %</td>
</tr>
<tr>
<td>Water:</td>
<td>96.2 %</td>
</tr>
<tr>
<td>VOC content:</td>
<td>0.80 %</td>
</tr>
<tr>
<td></td>
<td>210.5 g/l / 1.76 lb/gal</td>
</tr>
<tr>
<td>Solids content:</td>
<td>42.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  Very toxic
  Danger through skin absorption.
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - NTP (National Toxicology Program)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety Health Administration)
    None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

- Additional ecological information:
- General notes:
  Water hazard class 1 (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA Void
- UN proper shipping name
  - DOT, ADR, IMDG, IATA Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA Void
  - Class Void
- Packing group
  - DOT, ADR, IMDG, IATA Void
- Environmental hazards: Not applicable.
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  No further relevant information available.
- Sara
- Section 355 (extremely hazardous substances):
  None of the ingredients is listed.
- Section 313 (Specific toxic chemical listings):
  None of the ingredients is listed.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

- **TSCA (Toxic Substances Control Act):**
  - 7732-18-5 Deionized Water, Reagent Grade A.C.S. ACTIVE
  - 64-19-7 Acetic Acid Glacial ACTIVE

- **Hazardous Air Pollutants**
  None of the ingredients is listed.

- **Proposition 65**
  None of the ingredients is listed.

- **Chemicals known to cause cancer:**
  None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**
  None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**
  None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**
  None of the ingredients is listed.

- **Carcinogenic categories**
  None of the ingredients is listed.

- **EPA (Environmental Protection Agency)**
  None of the ingredients is listed.

- **TLV (Threshold Limit Value)**
  None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS02
    - GHS06

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - SODIUM ACETATE TRIHYDRATE

- **Hazard statements**
  Flammable liquid and vapor.
  Fatal if swallowed, in contact with skin or if inhaled.

- **Precautionary statements**
  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Do not get in eyes, on skin, or on clothing.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  [In case of inadequate ventilation] wear respiratory protection.
Trade name: ACETATE BUFFER, 0.2M, pH 5.6

(Contd. of page 8)

If swallowed: Immediately call a poison center/doctor.
Rinse mouth.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Specific treatment is urgent (see on this label).
Take off immediately all contaminated clothing and wash it before reuse.
In case of fire: Use CO2, powder or water spray to extinguish.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Contact:
- Date of preparation / last revision 12/06/2022 / -
- Abbreviations and acronyms:
  ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  VOC: Volatile Organic Compounds (USA, EU)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety Health
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit
  Flammable Liquids 3: Flammable liquids – Category 3
  Acute Toxicity - Oral 2: Acute toxicity – Category 2