Dear Educator,

This file contains the Safety Data Sheets (SDS) for FOSS MIXTURES AND SOLUTIONS, NEXT GENERATION as of July 24, 2017.

Because kit contents can sometimes be replaced, we recommend searching our online portal of SDS for current sheets as you need them. To make that searching easier, we have provided a listing below of the items with SDS in this kit.

Portal: http://www.schoolspecialty.com/sds

<table>
<thead>
<tr>
<th>Part Number to Search</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>020-0420</td>
<td>Baking soda</td>
</tr>
<tr>
<td>034-1031</td>
<td>Calcium carbonate</td>
</tr>
<tr>
<td>031-2608</td>
<td>Calcium chloride</td>
</tr>
<tr>
<td>031-2212</td>
<td>Citric acid</td>
</tr>
<tr>
<td>040-2236</td>
<td>Diatomaceous earth</td>
</tr>
<tr>
<td>050-1159</td>
<td>Epsom salts</td>
</tr>
<tr>
<td>191-1117</td>
<td>Kosher salt</td>
</tr>
<tr>
<td>201-1217-0</td>
<td>Thermometer</td>
</tr>
</tbody>
</table>

Note: The part numbers to search for in the portal are often not the same part numbers used to order replacements. To order replacements, please visit www.deltaeducation.com/refillcenter

If you have any questions, please contact Customer Care at 800-258-1302 for assistance.
SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Substance
Product Name: Sodium Bicarbonate
CAS No: 144-55-8
Formula: NaHCO₃
Synonyms: Baking Soda

Intended Use of the Product
Food Ingredient, Pharmaceutical, Household and Personal Care Product, Water Treatment, General Industrial Use.

Name, Address, and Telephone of the Responsible Party

Company
Church & Dwight
500 Charles Ewing Blvd
Ewing Township, NJ 08628
T 1-800-524-1328
www.churchdwight.com

Emergency Telephone Number

Emergency Number: For Medical Emergency: 1-888-234-1828, For Chemical Emergency: 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

The consumer variant of this product is labeled in accordance with regulations administered by the Consumer Product Safety Commission (CPSC) and the Food and Drug Administration (FDA). The use pattern and exposure in the workplace are generally not consistent with those experienced by consumers. The requirements of the Occupational Safety and Health Administration applicable to this SDS differ from the labeling requirements of the CPSC and FDA, and as a result, this SDS may contain additional health hazard information not pertinent to consumer use and not found on the product label.

Classification of the Substance or Mixture
Classification (GHS-US) Not classified

Label Elements
GHS-US Labeling No labeling applicable

Other Hazards Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Prolonged contact with dust can produce mechanical irritation.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium bicarbonate</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

Inhalation: When symptoms occur: go into open air and ventilate suspected area.

Skin Contact: Brush off loose particles from skin. Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.
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**Ingestion:** Rinse mouth. Do NOT induce vomiting. Seek medical attention if a large amount is swallowed.

**Most Important Symptoms and Effects Both Acute and Delayed**

**General:** None expected under normal conditions of use.

**Inhalation:** Prolonged inhalation of dust may cause respiratory irritation.

**Skin Contact:** Skin contact with large amounts of dust may cause mechanical irritation.

**Eye Contact:** Contact may cause irritation due to mechanical abrasion.

**Ingestion:** Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.

**Chronic Symptoms:** None expected under normal conditions of use.

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

If exposed or concerned, get medical advice and attention.

**SECTION 5: FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** For surrounding fire: Use of heavy stream of water may spread fire.

**Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** NOT FLAMMABLE. Under fire conditions, hazardous fumes will be present.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Advice for Firefighters**

**Precautionary Measures Fire:** Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

**Firefighting Instructions:** Exercise caution when fighting any chemical fire.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO₂). Sodium oxides.

**Reference to Other Sections**

Refer to section 9 for flammability properties.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures**

**General Measures:** Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust or fumes. Avoid skin and eye contact.

**For Non-Emergency Personnel**

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

**For Emergency Personnel**

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

**Environmental Precautions**

Prevent entry to sewers and public waters. Avoid release to the environment.

**Methods and Material for Containment and Cleaning Up**

**For Containment:** Contain and collect as any solid.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Avoid generation of dust during clean-up of spills. Keep in suitable, closed containers for disposal. Contact competent authorities after a spill.

**Reference to Other Sections**

See heading 8, Exposure Controls and Personal Protection.

**SECTION 7: HANDLING AND STORAGE**

**Precautions for Safe Handling**

**Additional Hazards When Processed:** When heated, material emits irritating fumes.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

**Conditions for Safe Storage, Including Any Incompatibilities**

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

**Incompatible Materials:** Acids. Water. Lime.

**Storage Temperature:** < 65 °C (150 °F)
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**Specific End Use(s)** Food Ingredient, Pharmaceutical, Water Treatment, General Industrial Use

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control Parameters

<table>
<thead>
<tr>
<th>Particulates not otherwise classified (PNOC)</th>
<th>Control Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>USA ACGIH</strong></td>
<td>ACGIH TWA (mg/m³)</td>
</tr>
<tr>
<td>Respirable fraction</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Total Dust</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td><strong>USA OSHA</strong></td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td>Respirable fraction</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Total Dust</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td><strong>Alberta</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (total)</td>
<td></td>
</tr>
<tr>
<td><strong>British Columbia</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (total dust)</td>
<td></td>
</tr>
<tr>
<td><strong>Manitoba</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (inhalable particles, recommended)</td>
<td></td>
</tr>
<tr>
<td><strong>New Brunswick</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>3 mg/m³ (particulate matter containing no Asbestos and &lt;1% Crystalline silica, respirable fraction)</td>
<td></td>
</tr>
<tr>
<td><strong>Newfoundland &amp; Labrador</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (inhalable particles, recommended)</td>
<td></td>
</tr>
<tr>
<td><strong>Nova Scotia</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (inhalable particles, recommended)</td>
<td></td>
</tr>
<tr>
<td><strong>Nunavut</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>5 mg/m³ (respirable mass)</td>
<td></td>
</tr>
<tr>
<td><strong>Northwest Territories</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>5 mg/m³ (respirable mass)</td>
<td></td>
</tr>
<tr>
<td><strong>Ontario</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (inhalable)</td>
<td></td>
</tr>
<tr>
<td><strong>Prince Edward Island</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (inhalable particles, recommended)</td>
<td></td>
</tr>
<tr>
<td><strong>Québec</strong></td>
<td>VEMP (mg/m³)</td>
</tr>
<tr>
<td>10 mg/m³ (including dust, inert or nuisance particulates; containing no Asbestos and &lt;1% Crystalline silica-total dust)</td>
<td></td>
</tr>
<tr>
<td><strong>Saskatchewan</strong></td>
<td>OEL STEL (mg/m³)</td>
</tr>
<tr>
<td>20 mg/m³ (insoluble or poorly soluble-inhalable fraction)</td>
<td></td>
</tr>
<tr>
<td>6 mg/m³ (insoluble or poorly soluble-respirable fraction)</td>
<td></td>
</tr>
<tr>
<td><strong>Saskatchewan</strong></td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>3 mg/m³ (insoluble or poorly soluble-respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

**Exposure Controls**

**Appropriate Engineering Controls:** For occupational/workplace settings: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** For occupational or bulk quantities: Gloves. Safety glasses. Dust formation: dust mask.

**Materials for Protective Clothing:** For occupational or bulk quantities: Chemically resistant materials and fabrics.

**Hand Protection:** For occupational or bulk quantities: Wear chemically resistant protective gloves.

**Eye Protection:** For occupational or bulk quantities: Chemical goggles or safety glasses.

**Respiratory Protection:** Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**Other Information:** When using, do not eat, drink or smoke.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Information on Basic Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White, crystalline powder</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>8.2 (1% Solution)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not available</td>
</tr>
</tbody>
</table>
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Auto-ignition Temperature : Not available
Decomposition Temperature : Not available
Flammability (solid, gas) : Not available
Upper/Lower Flammable Limit : Not available
Vapor Pressure : Not available
Relative Vapor Density at 20 °C : Not available
Specific gravity / density : 62 lb/ft³
Specific Gravity : Not available
Solubility : Water: 8.6 g/100ml @ 20 °C (68 °F)
Partition Coefficient: N-octanol/water : Not available
Viscosity : Not available

Explosion Data – Sensitivity to Mechanical Impact : Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge : Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Decomposes slowly on exposure to water (moisture).
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Exposure to moisture or moist air. Temperatures above 150°F (65 °C).
Hazardous Decomposition Products: None known. At high temperature may liberate toxic gases.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data:

<table>
<thead>
<tr>
<th>Sodium Bicarbonate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Oral Rat</td>
<td>7.3 g/kg</td>
</tr>
<tr>
<td>LC50 Inhalation Rat</td>
<td>&gt; 4.7 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation: Not classified [pH: 8.2 (1% Solution)]
Serious Eye Damage/Irritation: Not classified [pH: 8.2 (1% Solution)]
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged inhalation of dust may cause respiratory irritation.
Symptoms/Injuries After Skin Contact: Skin contact with large amounts of dust may cause mechanical irritation.
Symptoms/Injuries After Eye Contact: Contact may cause irritation due to mechanical abrasion.
Symptoms/Injuries After Ingestion: Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.
Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity  No additional information available

<table>
<thead>
<tr>
<th>Sodium Bicarbonate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
<td>7100 mg/l Bluegill</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>4100 mg/l</td>
</tr>
<tr>
<td>LC 50 Fish 2</td>
<td>7700 mg/l Rainbow Trout</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium bicarbonate (144-55-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
<td>8250 - 9000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>2350 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
</tbody>
</table>


Sodium Bicarbonate

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**Persistence and Degradability** Not established

Bioaccumulative Potential Not established

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

**SECTION 13: DISPOSAL CONSIDERATIONS**

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**SECTION 14: TRANSPORT INFORMATION**

In Accordance with DOT Not regulated for transport

In Accordance with IMDG Not regulated for transport

In Accordance with IATA Not regulated for transport

In Accordance with TDG Not regulated for transport

**SECTION 15: REGULATORY INFORMATION**

**US Federal & International Regulations**

Sodium Bicarbonate (144-55-8)

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on the Canadian DSL (Domestic Substances List)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

**US State Regulations**

Neither this product nor its chemical components appear on any US state lists.

**Canadian Regulations**

Sodium bicarbonate (144-55-8)

- Listed on the Canadian DSL [Domestic Substances List]

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

**SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION**

Revision Date : 03/12/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Party Responsible for the Preparation of This Document**

Church & Dwight

500 Charles Ewing Blvd

Ewing Township, NJ 08628

T 1-800-524-1328

This Product Safety Data Sheet is offered solely for your information, consideration and investigation. Church & Dwight Co., Inc. provides no warranties; either expressed or implied, and assumes no responsibility for the accuracy or completeness of data contained herein. Church & Dwight Co., Inc. urges persons receiving this information to make their own determination as to the information suitability for their particular application.
1 Identification

- Product identifier
- Trade name: Calcium Carbonate, Powder
- Article number: 634-1031
- CAS Number: 471-34-1
- EC number: 207-439-9

Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  Aqua Solutions, Inc.
  6913 Highway 225
  DEER PARK, TX 77536
  USA
  800-256-2586

Information department:
- Technical Coordinator
  Sherman Nelson
  sherman@aquasolutions.org
- Product safety department
- Emergency telephone number:
  Chemtrec: 800-424-9300
  Canadac: 613-996-6566

2 Hazard(s) Identification

Classification of the substance or mixture
Eye Irrit. 2B H120 Causes eye irritation.

Label elements
- GHS label elements
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms: Not Applicable
- Signal word: Warning
- Hazard statements
  Causes eye irritation.
- Precautionary statements
  Wash thoroughly after handling.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  If eye irritation persists: Get medical advice/attention.
- Classification system:
  - NFPA ratings (scale 0 - 4)
    Health: 1
    Fire: 0
    Reactivity: 0
  - HMIS ratings (scale 0 - 4)
    HEALTH: 1
    FIRE: 0
    REACTIVITY: 0
  - Other hazards
    - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Calcium Carbonate, Powder

3 Composition/information on ingredients
- Chemical characterization: Substances
- CAS No. Description
  471-34-1 Calcium Carbonate
- Identification number(s)
- EC number: 207-419-9

4 First-aid measures
- Description of first aid measures:
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures
- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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.

7 Handling and storage
- Precautions for safe handling: No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- 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: None.
- 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.

(Contd. on page 3)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Calcium Carbonate, Powder

Control parameters

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>471-34-1 Calcium Carbonate</td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>Long-term value: 15** mg/m³</td>
</tr>
<tr>
<td></td>
<td>Total dust **respirable fraction</td>
</tr>
<tr>
<td>REL</td>
<td>Long-term value: 10** mg/m³</td>
</tr>
<tr>
<td></td>
<td>Total dust **respirable fraction</td>
</tr>
<tr>
<td>TLV</td>
<td>TLV withdrawn</td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

- Personal protective equipment:
  - General protective and hygienic measures: Wash hands before breaks and at the end of work.
  - Breathing equipment: Not required.
  - Protection of hands:
    - 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
  - Material of gloves
    - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and vary from manufacturer to manufacturer.
  - Penetration time of glove material
    - The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - Eye protection: Not required.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General information
    - Appearance:
      - Form: Powder, Granules or Chips
      - Color: White
      - Odor: Odorless
      - Odour threshold: Not determined.
    - pH-value (50 g/l) at 20 °C (68 °F):
      - 9.5
    - Change in condition:
      - Melting point/ Melting range:
        - 800 °C (1472 °F)
      - Boiling point/ Boiling range:
        - Undetermined.
    - Flash point:
      - Not applicable.
    - Flammability (solid, gaseous):
      - Product is not flammable.
    - Ignition temperature:
      - Decomposition temperature:
        - Not determined.
      - Auto igniting:
        - Not determined.
    - Danger of explosion:
      - Product does not present an explosion hazard.
    - Explosion limits:
      - Lower:
        - Not determined.
      - Upper:
        - Not determined.
Trade name: Calcium Carbonate, Powder

10 Stability and reactivity

- Reactivity
- 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:

  | LD/LC50 values that are relevant for classification: |
  | Oral [LD50] 6430 mg/kg (rat) |

  | Primary irritant effects: |
  | on the skin: No irritant effect. |
  | on the eye: No irritating effect. |

  | Sensitization: No sensitizing effects known. |

  | Additional toxicological information: |
  | Carcinogenic categories |
  | IARC (International Agency for Research on Cancer) Substance is not listed. |
  | NTP (National Toxicology Program) Substance is not listed. |
  | OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed. |

12 Ecological information

- Toxicity:
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
  | General notes: Generally not hazardous for water |
  | Results of PBT and vPvB assessment |
  | PBT: Not applicable. |

(Contd. on page 5)
# Safety Data Sheet

**Trade name:** Calcium Carbonate, Powder

13 Disposal considerations

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

14 Transport information

- **UN-Number**
  - DOT, ADN, IMDG, IATA: Not regulated

- **UN proper shipping name**
  - DOT, ADN, IMDG, IATA: Not regulated

- **Transport hazard class(es)**
  - DOT: Not applicable
  - Class: Not regulated
  - ADN/R Class: Not regulated

- **Packing group**
  - DOT, IMDG, IATA: Not regulated

- **Environmental hazards:**
  - Marine pollutant: No

- **Special precautions for user**
  - Not applicable.

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

- **Transport/Additional information:**
  - DOT
    - Remarks: Not regulated
  - IMDG
    - Remarks: Not regulated
  - IATA
    - Remarks: Not regulated
  - UN "Model Regulation": Not regulated

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Satra**
  - Section 355 (extremely hazardous substances): Substance is not listed.
  - Section 313 (specific toxic chemical listings): Substance is not listed.
  - **TSCA (Toxic Substances Control Act):** Substance is listed.
  - **Proposition 65**
  - **Chemicals known to cause cancer:** Substance is not listed.
  - **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
  - **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.

(Contd. of page 4)
Safety Data Sheet
acc. to OSHA HCS

Printing date 11/19/2014
Reviewed on 01/21/2014

Trade name: Calcium Carbonate, Powder

(Contd. of page 5)

- **Chemicals known to cause developmental toxicity**: Substance is not listed.
- **Cardiogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ce (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**
  - The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**: Not Applicable
  - **Signal word**: Warning
  - **Hazard statements**
    - Causes eye irritation.
  - **Precautionary statements**
    - Wash thoroughly after handling.
    - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - If eye irritation persists: Get medical advice/attention.
  - **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.

- **Department issuing SDS**: Environment protection department.
- **Contact**: Mr. Nelson
- **Date of preparation / last revision**
  - Creation date for SDS 10-02-2014, STN 11/19/2014.
- **Abbreviations and acronyms**:
  - ADR: Accord européen cadre transport 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
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD10: Lethal dose, 10 percent
  - Eye Irrit. 3B: Serious eye damage/eye irritation, Hazard Category 3B.
Safety Data Sheet
acc. to OSHA HCS

1 Identification

- Product identifier
- Trade name: Calcium Chloride 4-8 Mesh Desiccant Grade, Anhydrous
- Article number: 031-2608
- CAS Number: 10043-52-4
- EC number: 233-140-8
- Index number: 017-013-00-2
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  Aqua Solutions, Inc.
  5911 Highway 212
  DEER PARK, TX 77536
  USA
  800-256-2586
- Information department:
  Product safety department
  Technical Coordinator
  Sherrie Nebben sherman@aquasolutions.org
- Emergency telephone number:
  Chemtec: 800-424-5300
  Chemtec: 613-996-5666

2 Hazard(s) identification

- Classification of the substance or mixture
  GHS07
  Eye Irrit. 2, H319 Causes serious eye irritation.

- Label elements
  GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).
  Hazard pictograms
  GHS07

- Signal word Warning
- Hazard statements
  Causes serious eye irritation.
- Precautionary statements
  Wear protective gloves/protective clothing/eye protection/face protection.
  Wash thoroughly after handling.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  IF eye irritation persists: Get medical advice/attention.
  IF ON SKIN: Wash with plenty of soap and water.
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

(Contd. on page 2)
Trade name: Calcium Chloride 4-8 Mesh Desiccant Grade, Anhydrous

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 1
    - Fire = 0
    - Reactivity = 0

- HMIS-ratings (scale 0 - 4)
  - HEALTH: Health = 1
  - FIRE: Fire = 0
  - REACTIVITY: Reactivity = 0

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

3 Composition/Information on ingredients:

- Chemical characterization: Substances
- CAS No. Description
  - 10043-52-4 Calcium Chloride
- Identification number(s)
- EC number: 233-140-8
- Index number: 017-013-00-2

4 First-aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally, the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
Safety Data Sheet
acc. to OSHA HCS

Printing date 08/12/2014
Reviewed on 02/17/2014

Trade name: Calcium Chloride 4-8 Meth Desiccant Grade, Anhydrous

(Cond. of page 2)

7 Handling and storage

- Precautions for safe handling: Prevent formation of dust.
- Information about protection against explosions and fires: No special measures required.
- 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.
- 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: Not required.
- 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.
  Avoid contact with the eyes.
  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
- 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.
- 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.

(Cond. on page 4)
# Safety Data Sheet

## Trade name: Calcium Chloride 4-8 Mesh Desiccant Grade, Anhydrous

(Contd. of page 3)

## 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Powder</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td><em>pH</em>-value</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>782 °C (1440 °F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>&gt; 1600 °C (&gt; 2912 °F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Product is not flammable.</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Not determined</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F)</td>
<td>2.15 g/cm³ (17.942 lb/gal)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in / Miscibility with</td>
<td></td>
</tr>
<tr>
<td>Water at 20 °C (68 °F)</td>
<td>740 g/l</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
10 Stability and reactivity

- Reactivity
  - 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:
    - LD/LC50 values that are relevant for classification:
      - Oral: LD50: 1000 mg/kg (rat)
    - Primary irritant effect:
      - on the skin: No irritant effect.
      - on the eye: Irritating effect.
      - Sensitization: No sensitizing effects known.
      - Additional toxicological information:
      - Carcinogenic categories
      - IARC (International Agency for Research on Cancer) Substance is not listed.
      - NTP (National Toxicology Program) Substance is not listed.
      - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Additional ecological information:
    - General notes:
      - Water hazard class 1 (Assessment by list): 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.
Trade name: Calcium Chloride 4-8 Mesh Desiccant Grade, Anhydrous

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT, ADN, IMDG, IATA: Not Applicable

- UN proper shipping name
  - DOT, ADN, IMDG, IATA: Not Applicable

- Transport hazard class(es)
  - DOT, IMDG
    - Class: Not Applicable
    - Label:
      - ADN/R Class: Not Applicable

- Packing group
  - DOT, IMDG, IATA: Not Applicable

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user: Not applicable.

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

- UN "Model Regulation":

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sear
  - Section 355 (extremely hazardous substances): Substance is not listed.
  - Section 313 (Specific toxic chemical listings): Substance is not listed.
  - TSCA (Toxic Substances Control Act): Substance is listed.
  - Proposition 65
    - Chemicals known to cause cancer: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
    - Chemicals known to cause developmental toxicity: Substance is not listed.

- Carcinogenic categories
  - EPA (Environmental Protection Agency) Substance is not listed.
  - TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
  - NIOSH (National Institute for Occupational Safety and Health) Substance is not listed.
  - GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS). (Contd. on page 7)
### Safety Data Sheet
#### acc. to OSHA HCS

**Trade name:** Calcium Chloride 4-8 Mesh Desiccant Grade, Anhydrous

---

**Hazard pictograms**

![Hazard Pictogram](image)

**Signal word:** Warning

**Hazard statements**
- Causes serious eye irritation.

**Precautionary statements:**
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash thoroughly after handling.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**IF ON SKIN:** Wash with plenty of soap and water.

**IF SWALLOWED:** Call a POISON CENTER/doctor if you feel unwell.

**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.

- **Department issuing MSDS:** Environment protection department.
- **Contact:** Mr. Nelson
- **Date of preparation / last revision**
  - Creation date for SDS 03-21-2014 STN
  - 08/12/2014 /-

**Abbreviations and acronyms:**
- ADR: Accords européens sur le transport 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
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- Eye Irrit 2: Serious eye damage/eye irritation, Hazard Category 2

---

**USA**
1 Identification

- **Product identifier**
- **Trade name:** Citric Acid Anhydrous, Laboratory Grade
- **Article number:** 031-2212
- **CAS Number:** 77-92-9
- **EC number:** 201-069-1

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    Aqua Solutions, Inc.
    6913 Highway 225
    DEER PARK, TX 77536
    USA
    800-256-2585
  - **Information department:**
    Product safety department
    Technical Coordinator
    Sherman Nelson
    sherman@aquasolutions.org
  - **Emergency telephone number:**
    Chemtec: 800-424-6300
    Canitec: 613-996-6666

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - ![GHS07](image)
  - **Eye Irrit. 2A** H319 Causes serious eye irritation.

- **Label elements**
  - **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - ![GHS07](image)

- **Signal word** Warning
- **Hazard statements**
  - Causes serious eye irritation.
- **Precautionary statements**
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Wash thoroughly after handling.
  - **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - **If eye irritation persists:** Get medical advice/attention.

(Cond. on page 2)
Safety Data Sheet  
acc. to OSHA HCS

Trade name: Citric Acid Anhydrous, Laboratory Grade

<table>
<thead>
<tr>
<th>Classification system:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NFPA ratings (scale 0 - 4)</strong></td>
</tr>
<tr>
<td>Health = 1</td>
</tr>
<tr>
<td>Fire = 0</td>
</tr>
<tr>
<td>Reactivity = 0</td>
</tr>
<tr>
<td><strong>HMIS-ratings (scale 0 - 4)</strong></td>
</tr>
<tr>
<td>HEALTH</td>
</tr>
<tr>
<td>Fire = 0</td>
</tr>
<tr>
<td>Reactivity = 0</td>
</tr>
<tr>
<td>OTHER hazards</td>
</tr>
<tr>
<td>Results of PBT and PVE assessment</td>
</tr>
<tr>
<td>PBT: Not applicable.</td>
</tr>
<tr>
<td>PVE: Not applicable.</td>
</tr>
</tbody>
</table>

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  77-92-9 Citric Acid, Anhydrous
- Identification number(s)
  EC number: 201-069-1

4 First-aid measures

- Description of first-aid measures
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact:
  Reassure opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:
  If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture
  No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Not required.
- Environmental precautions:
  Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up
  Pick up mechanically.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Citric Acid Anhydrous, Laboratory Grade

(Contd. of page 2)

7 Handling and storage

- Precautions for safe handling: No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- 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.
- Specific end uses: 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: Not required.
- 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.
  Avoid contact with the eyes.
  Avoid contact with the eyes and skin.
- Breathing equipment: Not required.
- 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 as 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
- 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.
- 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.

(Contd. on page 4)
**Trade name:** Citric Acid Anhydrous, Laboratory Grade

*(Contd. of page 3)*

**Eye protection:**

Tightly sealed goggles

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Odorless</td>
</tr>
<tr>
<td><strong>Odour threshold:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value (100 g/l) at 20 °C (68 °F):</strong></td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Information not °C</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>Information not °C</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Product is not flammable.</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong></td>
<td>1010 °C (1850 °F)</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Auto igniting:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor pressure:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Density at 20 °C (68 °F):</strong></td>
<td>1.542 g/cm³ (12.868 lbs/gal)</td>
</tr>
<tr>
<td><strong>Bulk density at 20 °C (68 °F):</strong></td>
<td>900 kg/m³</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
<td></td>
</tr>
<tr>
<td>Water at 20 °C (68 °F):</td>
<td>600 g/l</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

*(Contd. on page 5)*
Safety Data Sheet
acc. to OSHA HCS

Trade name: Citric Acid Anhydrous, Laboratory Grade

(Contd. of page 4)

10 Stability and reactivity
- Reactivity
- 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:
  - LD/LC50 values that are relevant for classification:
    | Route | Value       |
    |-------|-------------|
    | Oral  | 5040 mg/kg (mouse) |
    | Inrapertoneal | 375 mg/kg (rat) |
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer) Substance is not listed.
    - NTP (National Toxicology Program) Substance is not listed.
    - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information
- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes:
  Water hazard class 1 (Assessment by list): slightly hazardous for water.
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

(Contd. on page 6)
Trade name: Citric Acid Anhydrous, Laboratory Grade

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.
  - Recommended cleaning agent: Water, if necessary with cleansing agents.

14 Transport information
- UN-Number
  - DOT, ADN, IMDG, IATA Not Applicable
- UN proper shipping name
  - DOT, ADN, IMDG, IATA Not Applicable
- Transport hazard class(es)
  - DOT, ADN, IMDG, IATA Not Applicable
  - Class Not Applicable
- Packing group
  - DOT, IMDG, IATA Not Applicable
- Environmental hazards:
  - Marine pollutants: No
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- Transport/Additional information:
  - DOT Not Regulated
  - UN “Model Regulation”: -

15 Regulatory information
- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - SARA
  - Section 313 (extremely hazardous substances): Substance is not listed.
  - SARA (Toxic Substances Control Act): Substance is not listed.
  - TSCA (Toxic Substances Control Act): Substance is listed.
  - Proposition 65
    - Chemicals known to cause cancer: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
    - Chemicals known to cause developmental toxicity: Substance is not listed.
- Carcinogenic categories
  - EPA (Environmental Protection Agency) Substance is not listed.
  - TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
  - NIOSH-Cl (National Institute for Occupational Safety and Health) Substance is not listed.

(Contd. on page 7)
Safety Data Sheet
acc. to OSHA HCS

Trade name: Citric Acid Anhydrous, Laboratory Grade

GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictogram:

GHS07

Signal word: Warning
Hazard statements:
Causes serious eye irritation.
Precautionary statements:
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

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.

Department issuing MSDS: Environment protection department.

Contact: Mr. Nelson

Date of preparation / last revision:
Creation date for SDS 08/12/2014 1S
08/12/2014 1S

Abbreviations and acronyms:
ADR: Accord européen pour le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
DOT: US Department of Transportation
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Eye irrit. 1A: Serious eye damage/eye irritation, Hazard Category 1A
SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>PRODUCT IDENTIFIER</th>
<th>CELAPOOL™</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEMICAL NAME</td>
<td>Diatomaceous Earth, Flux-Calcined</td>
</tr>
<tr>
<td>CHEMICAL FAMILY</td>
<td>Silica</td>
</tr>
<tr>
<td>MATERIAL USE</td>
<td>Filter Aid</td>
</tr>
<tr>
<td>RESTRICTION ON USE</td>
<td>None Known</td>
</tr>
<tr>
<td>MANUFACTURER</td>
<td>EP Minerals, LLC., 9875 Gateway Dr., Reno, NV 89521</td>
</tr>
<tr>
<td>TELEPHONE NO.</td>
<td>(775) 824 7600 (Monday – Friday 8:00 am PST – 5:00 pm PST)</td>
</tr>
<tr>
<td>EMERGENCY TELEPHONE NO.</td>
<td>(775) 824 7600 (Monday – Friday 8:00 am PST – 5:00 pm PST)</td>
</tr>
<tr>
<td>SDS DATE OF PREPARATION</td>
<td>January 31, 2014</td>
</tr>
</tbody>
</table>

SECTION 2: HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>OSHA GHS HAZARD CLASSIFICATION</th>
<th>Carcinogen Category 1A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specific Target Organ Toxicity, Repeated Exposure Category 1</td>
</tr>
<tr>
<td>HAZARDS NOT OTHERWISE CLASSIFIED</td>
<td>None</td>
</tr>
</tbody>
</table>

| LABEL ELEMENTS | DANGER May cause cancer by inhalation. Causes damage to lungs through prolonged or repeated exposure. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wear eye protection. If exposed or concerned: Get medical advice. Dispose of contents in accordance with local, state and federal regulations. |

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT IDENTIFICATION</th>
<th>APPROXIMATE CONCENTRATION (%)</th>
<th>C.A.S. NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diatomaceous Earth, Flux-Calcined (kieselguhr) (contains 35-50% Crystalline Silica - Cristobalite)</td>
<td>100%</td>
<td>68855-54-9 14464-46-1</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

| EYE | Flush eyes with generous quantities of water or eye rinse solution. Consult physician if irritation persists. |
| SKIN | Use moisture renewing lotions if dryness occurs. |
| INGESTION | Drink generous amounts of water to reduce bulk and drying effects. |
| INHALATION | Remove to fresh air. Blow nose to evacuate dust. |
| Most important symptoms/effects, acute and delayed | Dust may cause abrasive irritation to eyes. Prolonged skin contact may cause dryness. Dust may cause nose, throat and upper respiratory tract irritation. Prolonged inhalation of respirable dust containing silica may cause a progressive lung disease, silicosis and lung cancer. See Section 11 for additional information. |
| Indication of immediate medical attention and special treatment, if necessary | Immediate medical attention is not normally required. If dust irritates the eyes, seek medical attention. |
### SECTION 5: FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA**
Not applicable, the material is not combustible.

**SPECIFIC HAZARDS ARISING FROM THE CHEMICAL**
Not applicable, the material is not combustible.

**SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS**
Not applicable, the material is not combustible.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS**
If dust is present, use respirator fitted with particulate filter as specified in Section 8. Protect eyes with goggles. Do not breathe dust.

**ENVIRONMENTAL PRECAUTIONS**
This material is not a significant environmental concern.

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP**
Vacuum clean spillage or wet sweep. Avoid creating airborne dust. Place in a container for use or disposal.

### SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING**
Minimize dust generation. Avoid contact with eyes. Do not breathe dust. Repair or dispose of broken bags. Observe all label precautions and warnings.

**CONDITIONS FOR SAFE STORAGE**
Store in a dry place to maintain packaging integrity and product quality. Do not store near hydrofluoric acid or concentrated caustic solutions.

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

#### EXPOSURE GUIDELINES:

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>MSHA PEL</th>
<th>NIOSH REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diatomaceous Earth, Flux-Calcined (kieselguhr)</td>
<td>5 mg/m³ respirable dust&lt;br&gt;15 mg/m³ total dust</td>
<td>None Established</td>
<td>5 mg/m³ respirable dust&lt;br&gt;15 mg/m³ total dust</td>
<td>None Established</td>
</tr>
<tr>
<td>Crystalline Silica (Cristobalite)</td>
<td>1 x 30 mg/m³&lt;br&gt;2% SiO₂+2 total dust&lt;br&gt;1 x 10 mg/m³&lt;br&gt;2% SiO₂+2 respirable dust</td>
<td>0.025 mg/m³ respirable dust&lt;br&gt;1 x 30 mg/m³&lt;br&gt;2% SiO₂+2 total dust&lt;br&gt;1 x 10 mg/m³&lt;br&gt;2% SiO₂+2 respirable dust</td>
<td>0.05 mg/m³ respirable dust</td>
<td></td>
</tr>
</tbody>
</table>

**ENGINEERING CONTROLS**
Use general or local exhaust ventilation to control dust within recommended exposure limits. Refer to ACGIH publication "Industrial Ventilation" or similar publications for design of ventilation systems.

**PERSONAL PROTECTIVE EQUIPMENT**:

**EYE / FACE PROTECTION**
Goggles to protect from dust

**SKIN PROTECTION**
No special equipment is needed.

**RESPIRATORY PROTECTION**
Respirators fitted with filters certified to standard 42CFR84 under series N95 should be worn when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use a quarter or half-mask respirator with a N95 dust filter or a single use dust mask rated N95. If dust concentration is greater than ten (10) times and less than fifty (50) times the PEL, a full-face piece respirator fitted with replaceable N95 filters is recommended. If dust concentration is greater than fifty (50) and less than two hundred (200) times the PEL use a power air-purifying (positive pressure) respirator with a replaceable N95 filter. If dust concentration is greater than two hundred (200) times the PEL use a type C, supplied air respirator (continuous flow, positive pressure), with full face piece, hood or helmet.

**GENERAL HYGIENE**
Avoid breathing dust. Avoid contact with eyes. Wash hands after handling and before eating or drinking.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE, COLOR</td>
<td>Light pink to white powder</td>
</tr>
<tr>
<td>ODOR</td>
<td>Odorless</td>
</tr>
<tr>
<td>PHYSICAL STATE</td>
<td>Solid</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>&gt; 1300°F</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH (10% SUSPENSION)</td>
<td>10</td>
</tr>
<tr>
<td>FLAMMABILITY LIMITS</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DECOMPOSITION TEMPERATURE</td>
<td>&gt; 1300°F</td>
</tr>
<tr>
<td>SPEC. GRAVITY / RELATIVE DENSITY</td>
<td>2.3</td>
</tr>
<tr>
<td>AUTOIGNITION TEMPERATURE</td>
<td>Not applicable</td>
</tr>
<tr>
<td>PARTITION COEFFICIENT – n-OCTANOL/WATER</td>
<td>Not applicable</td>
</tr>
<tr>
<td>FLAMMABILITY (solid/gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>SOLUBILITY – WATER</td>
<td>&lt; 1%</td>
</tr>
<tr>
<td>VISCOSITY</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACTIVITY</td>
<td>Material is not reactive.</td>
</tr>
<tr>
<td>CHEMICAL STABILITY</td>
<td>Material is stable.</td>
</tr>
<tr>
<td>POSSIBILITY OF HAZARDOUS REACTIONS</td>
<td>Material is not reactive under normal conditions of handling unless mixed with incompatible substances below.</td>
</tr>
<tr>
<td>CONDITIONS TO AVOID</td>
<td>Not applicable</td>
</tr>
<tr>
<td>INCOMPATIBLE MATERIALS</td>
<td>Hydrofluoric acid and concentrated caustic solutions may react violently with the product.</td>
</tr>
<tr>
<td>HAZARDOUS DECOMPOSITION PRODUCTS</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 11: TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTENTIAL HEALTH EFFECTS</td>
<td></td>
</tr>
<tr>
<td>Likely Routes of Exposure</td>
<td>See below</td>
</tr>
<tr>
<td>EYE</td>
<td>May cause irritation (tear formation and redness) if dust gets in eyes.</td>
</tr>
<tr>
<td>SKIN</td>
<td>Not absorbed by the skin, but may cause dryness if prolonged exposure.</td>
</tr>
<tr>
<td>INGESTION</td>
<td>Ingestion of small quantities is not considered harmful, but may cause irritation of the mouth, throat and stomach.</td>
</tr>
<tr>
<td>INHALATION</td>
<td>Acute inhalation can cause dryness of the nasal passage and lung congestion, coughing and general throat irritation. Acute inhalation of high concentrations of respirable crystalline silica may cause acute silicosis.</td>
</tr>
<tr>
<td>CHRONIC EFFECTS</td>
<td>This product contains crystalline silica. Respirable crystalline silica may cause lung cancer and lung disease (silicosis) if inhaled for prolonged periods. Symptoms of silicosis include wheezing, cough and shortness of breath.</td>
</tr>
<tr>
<td>CARCINOGENICITY</td>
<td>Flux-calcined diatomaceous earth (Kieselguhr) is composed of amorphous and crystalline silica. Respirable crystalline silica (cristobalite) is classified by IARC and NTP as a known human carcinogen. Crystalline silica is only known to cause cancer when inhaled in a respirable form. It is not known to cause cancer by any other route of exposure.</td>
</tr>
<tr>
<td>NTP</td>
<td>Respirable crystalline silica (cristobalite) is classified as a known human carcinogen.</td>
</tr>
<tr>
<td>IARC</td>
<td>Respirable crystalline silica (cristobalite) is classified as a known human carcinogen.</td>
</tr>
<tr>
<td>NUMERICAL MEASURES OF TOXICITY</td>
<td>No data available</td>
</tr>
<tr>
<td>CORROSIVENESS, SENSITIZATION, IRRITANCY</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: Diatomaceous earth products have shown some efficacy as a natural insecticide, but otherwise have no demonstrated toxicity in regards to aquatic or terrestrial life.

PERSISTENCE AND DEGRADABILITY: Non-biodegradable, inert.

BIOACCUMULATIVE POTENTIAL: Little potential for bioaccumulation.

MOBILITY IN SOIL: No mobility.

OTHER ADVERSE EFFECTS: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: If this material as supplied becomes a waste, use solid waste disposal common to landfill type operations or in slurry to sumps. Not considered a hazardous waste under RCRA (40CFR Part 261).

PACKAGING DISPOSAL: Dispose of in accordance with applicable laws and regulations, typically solid waste disposal common to landfill type operations.

SECTION 14: TRANSPORT INFORMATION

BASIC SHIPPING INFORMATION: DOT shipping classification 55 (no restrictions). Technical name is “Diatomaceous Earth”.

ADDITIONAL INFORMATION: No special requirements or placarding necessary.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL:

TSCA: Diatomaceous Earth and Cristobalite appear on the EPA TSCA inventory list.

CERCLA: Diatomaceous Earth is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR 302.

SARA TITLE III: Not listed.

California Proposition 65: This product contains crystalline silica, a chemical known to the State of California to cause cancer.

INTERNATIONAL:

WHMIS Classification: Class D-2-A

WHMIS Ingredient Disclosure List: Silica, crystalline, cristobalite

SECTION 16: OTHER INFORMATION

NFPA: 0-0-0-0

HMIS: 0* Health 0 Flammability 0 Reactivity E Protective Equipment

ORIGINAL ISSUE DATE: November 18, 1985

REVISION DATE: April 21, 2015

REVISION NO.: 12

Disclaimer: As of the date of the preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable federal and state laws. No warranty, representation or guaranty of any kind, express or implied, is hereby provided or intended with respect to the completeness of the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by the purchase, resale, use or exposure to our product. Customer users of silica must comply with all applicable health and safety laws, regulations and orders, including OSHA Hazardous Communication Standard.
1 Identification

- **Product identifier**
- **Trade name:** Epsom Salts (Magnesium Sulfate Heptahydrate)
- **Article number:** 020-1139
- **CAS Number:** 10534-09-8
- **EC number:** 231-298-2

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Aqua Solutions, Inc.
  - **Address:** 6911 Highway 215 DEER PARK, TX 77536 USA
  - **Telephone:** 800-216-2586

- **Information department:**
  - **Product safety department**
  - **Technical Coordinator:** Sherman Nelson Sherman@aquasolutions.org
  - **Emergency telephone number:**
    - Chemtrec: 800-424-5300
    - Canute: 613-999-5666

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - The substance is not classified according to the Globally Harmonized System (GHS).

- **Label elements**
  - GHS label elements: Not Applicable
  - Hazard pictograms: Not Applicable
  - Signal word: Not Applicable
  - Hazard statements: Not Applicable
  - Precautionary statements
    - **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - **If swallowed:** Call a poison control/doctor if you feel unwell.
    - **If on skin:** Wash with plenty of water.
  - Classification system:
    - NFPA ratings: (scale 0 - 4)
      - **Health:** 1
      - **Fire:** 0
      - **Reactivity:** 0
  - HMIS-ratings: (scale 0 - 4)
    - **Health:** 1
    - **Fire:** 0
    - **Reactivity:** 0

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

(Contd. on page 2)
### 3 Composition/Information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  - 10034-99-8 Magnesium Sulfate Heptahydrate
- Identification number(s)
- EC number: 231-290-2

### 4 First-aid measures

- Description of first aid measures
- General information: No special measures required.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

### 6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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.

### 7 Handling and storage

- Precautions for safe handling: No special measures required.
- Information about protection against explosions and fires: No special measures required.
- 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.
Trade name: Epsom Salts (Magnesium Sulfate Hexahydrate)

- Further information about storage conditions: None.
- 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: Not required.
  - Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      The usual precautionary measures for handling chemicals should be followed.
    - Breathing equipment: Not required.
    - Protection of hands:
      The glove material has to be impermeable and resistant to the product/the substance/the preparation.
      Due to missing data 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
    - 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.
    - 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: Not required.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      Form: Crystalline
      Color: White
    - Odor:
      Odorless
    - Odour threshold:
      Not determined.
  - pH-value (50 g/l) at 25 °C (77 °F): 5 - 8
  - Change in condition
    - Melting point/Melting range: 1124 °C (2055 °F)
    - Boiling point/Boiling range: Undetermined.
  - Flash point: Not applicable.
  - Flammability (solid, gaseous): Product is not flammable.
  - Ignition temperature:
    - Decomposition temperature: Not determined.
  - Auto igniting: Not determined.
  - Danger of explosion: Product does not present an explosion hazard.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Epsom Salts (Magnesium Sulfate Heptahydrate)

- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapor pressures: Not applicable.
- Density at 20 °C (68 °F): 1.67 g/cm³ (3.936 lbs/gal)
- Relative density: Not determined.
- Vapor density: Not applicable.
- Evaporation rate: Not applicable.
- Solubility in / Miscibility with Water at 20 °C (68 °F): 246 g/l
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity
  - 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:
    - LD/LC50 values that are relevant for classification:
      - Oral LD50 not available mg/kg (rat)
      - Dermal LD50 not available mg/kg (rat)
      - Inhalative LC50/4 h not available mg/l (rat)
      - Irritation of skin Skin Corrosion/Irritation not available (rat)
      - Irritation of eyes Eye damage/eye irritation not available (rabbit)
      - Germ cell mutagenicity not available (rat)
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
  - The substance is not subject to classification.
Trade name: Epsom Salts (Magnesium Sulfate Hexahydrate)

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes: Water hazard class 1 (Assessment by list); slight hazard to 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: Smaller quantities can be disposed of with household waste.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, ADN, IMDG, IATA: Not regulated
- UN proper shipping name
  - DOT, ADN, IATA: Not regulated
  - IMDG: Not Regulated
- Transport hazard class(es):
  - DOT, ADN, IMDG, IATA
    - Class: Not regulated
- Packing group
  - DOT, IMDG, IATA: Not regulated
- Environmental hazards:
  - Marine pollutants: No
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sarb
- Section 355 (extremely hazardous substances): Substance is not listed.
- Section 313 (Specific toxic chemical listings): Substance is not listed.
- TSCA (Toxic Substances Control Act): Substance is listed.
- Proposition 65
- Chemicals known to cause cancer: Substance is not listed.
- Chemicals known to cause reproductive toxicity for females: Substance is not listed.
- Chemicals known to cause reproductive toxicity for males: Substance is not listed.
- Chemicals known to cause developmental toxicity: Substance is not listed.
- Carcinogenic categories
- EPA (Environmental Protection Agency): Substance is not listed.
- TLV (Threshold Limit Value established by ACGIH): Substance is not listed.
- NIOSH-Fe (National Institute for Occupational Safety and Health): Substance is not listed.
- GHS label elements: Not Applicable
- Hazard pictograms: Not Applicable
- Signal word: Not Applicable
- Hazard statements: Not Applicable
- Precautionary statements:
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - If swallowed: Call a poison center/doctor if you feel unwell.
  - If on skin: Wash with plenty of water.
- 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.

- Department issuing SDS: Environment protection department.
- Contact: Mr. Nelson
- Date of preparation / last revision
  - Creation date for SDS 08-09-2014, STN 11/13/2014 /
- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 7)
Safety Data Sheet
acc. to OSHA HCS

Printing date 11/13/2014
Reviewed on 03/26/2014

Trade name: Epsom Salts (Magnesium Sulfate Heptahydrate)

DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LC50: Lethal dose, 50 percent
1 Identification

- **Product identifier**
  - **Trade name**: Kosher Salt
  - **Article number**: 191-1117
  - **CAS Number**: 7647-14-5
  - **EC number**: 231-598-3

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier**: Aqua Solutions, Inc.
    6913 Highway 225
    DEER PARK, TX 77536
    USA
    800-256-2586
  - **Information department**: Technical Coordinator
    Sherman Nelson sherman@aquasolutions.org
  - **Emergency telephone number**: Chemtrec: 800-424-9300
    Canutec: 613-996-6666

2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).

- **Label elements**
  - **GHS label elements**: Not Applicable
  - **Hazard pictograms**: Not Applicable
  - **Signal word**: Not Applicable
  - **Hazard statements**: Not Applicable

- **Classification system**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - HEALTH
    - Health = 1
    - FIRE
    - Fire = 0
    - REACTIVITY
    - Reactivity = 0

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT**: Not applicable.
    - **vPvB**: Not applicable.
3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  7647-14-5 Sodium Chloride
- Identification number(s)
- EC number: 231-598-3

4 First-aid measures

- Description of first aid measures
  - General information: No special measures required.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult 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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Not required.
- 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).
- 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.

7 Handling and storage

- Precautions for safe handling No special measures required.
- Information about protection against explosions and fires: No special measures required.
- 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: None.
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: Not required.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
- Breathing equipment: Not required.
- Protection of hands:
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
- 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.
- 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: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Crystalline
  - Color: White
- Odor:
  - Odor threshold: Not determined.
- pH-value at 20 °C (68 °F): 6-9
- Change in condition
  - Melting point/Melting range: Information not °C
  - Boiling point/Boiling range: 1413 °C (2575 °F)
- Flash point: Not applicable.
- Flammability (solid, gaseous): Not applicable.
- Ignition temperature:
  - Decomposition temperature: Not determined.
- Auto igniting: Not determined.
- Danger of explosion: Product does not present an explosion hazard.
39.6.7

· Explosion limits:
  Lower: Not determined.
  Upper: Not determined.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 2.165 g/cm³ (18.067 lbs/gal)

· Bulk density at 20 °C (68 °F): 800-1600 kg/m³
  Relative density Not determined.
  Vapour density Not determined.
  Evaporation rate Not determined.

· Solubility in / Miscibility with
  Water at 20 °C (68 °F): 358 g/l

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.
  Organic solvents: 0.0 %

· Other information
  No further relevant information available.

10 Stability and reactivity

· Reactivity
· 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:
    · LD/LC50 values that are relevant for classification:
      7647-14-5 Sodium Chloride
      Oral LD50 3000 mg/kg (rat)

· Primary irritant effect:
  · on the skin: No irritant effect.
  · on the eye: No irritating effect.
  · Sensitization: No sensitizing effects known.

· Additional toxicological information:
  When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
  The substance is not subject to classification.
Trade name: Kosher Salt

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Water hazard class 1 (Assessment by list): 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: Smaller quantities can be disposed of with household waste.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, IMDG, IATA: Not regulated
- UN proper shipping name
  - DOT, IATA: Not regulated
  - IMDG: Not Regulated
- Transport hazard class(es)
  - DOT, IMDG, IATA
  - Class: Not regulated
- Packing group
  - DOT, IMDG, IATA: Not regulated
- Environmental hazards:
  - Marine pollutant: No
### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances): Substance is not listed.
    - Section 313 (Specific toxic chemical listings): Substance is not listed.
  - TSCA (Toxic Substances Control Act): Substance is listed.
  - Proposition 65
    - Chemicals known to cause cancer: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
    - Chemicals known to cause developmental toxicity: Substance is not listed.
  - Carcinogenic categories
    - EPA (Environmental Protection Agency) Substance is not listed.
    - TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
    - NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.
  - GHS label elements Not Applicable
    - Hazard pictograms Not Applicable
    - Signal word Not Applicable
    - Hazard statements Not Applicable
Trade name: Kosher Salt

- **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.

- **Department issuing SDS:** Environment protection department.
- **Contact:** Mr. Nelson
- **Date of preparation / last revision:** 11/17/2014 / -
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport 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
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity:  
Isoamyl Benzoate for Synthesis

Alternate Names:  
Isoamyl Benzoate for Synthesis

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:  
Chemical for synthesis

Application Method:  
See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name:  
Thermco Products, Inc.

10 Millpond Drive,
Unit #10
Lafayette, NJ 07848

Emergency

Customer Service: Thermco Products, Inc.  
973.300.9100

2. Hazard identification of the product

2.1. Classification of the substance or mixture

Combustible Liquid; H227  
Combustible Liquid.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

H227 Combustible liquid.

[Prevention]:  
P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P280 Wear protective gloves / eye protection / face protection.

[Response]:  
No GHS response statements

[Storage]:  
P403+235 Store in a well ventilated place. Keep cool.

[Disposal]:  
P501 Dispose of contents / container in accordance with local / national regulations.
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPENTYL BENZOATE</td>
<td>100</td>
<td>Not classified</td>
<td>[1]</td>
</tr>
</tbody>
</table>

CAS Number: 0000094-46-2

[1] Substance classified with a health or environmental hazard.
*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes
Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion
If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview
No specific symptom data available. See section 2 for further details.

5. Fire-fighting measures

5.1. Extinguishing media
Recommended extinguishing media; alcohol resistant foam, CO₂, powder, water spray. Do not use; water jet.

5.2. Special hazards arising from the substance or mixture
Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.
Hazardous decomposition: No hazardous decomposition data available.
Keep away from heat / sparks / open flames / hot surfaces - No smoking.

5.3. Advice for fire-fighters
Special risks: Combustible. Vapors heavier than air.
Forms explosive mixtures with air on intense heating,
Development of hazardous combustion gases or vapors possible in the event of fire.
Special protective equipment for fire fighting:
Do not stay in dangerous zone without self-contained breathing apparatus.
Do not allow run off water and contaminants from fire fighting to enter drains or water ways.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).
Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.

6.2. Environmental precautions
Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up
Do not inhale vapors/aerosols. Ensure supply of fresh air in enclosed rooms.
Take up with liquid-absorbent material (e.g. Chemizorb). Forward for disposal. Clean up affected area.

7. Handling and storage

7.1. Precautions for safe handling
Store in accordance with the National Fire Protection Association's publication NFPA 30, Flammable and Combustible Liquids Code. 29 CFR 1910.106 applies to the handling, storage, and use of flammable and combustible liquids.
See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities
Handle containers carefully to prevent damage and spillage.
Store in a cool dry area, away from heat, sparks and open flame. Keep containers sealed when not in use. Store out of direct sunlight.
Incompatible materials: Strong oxidizing agents
Tightly closed. At +15C to +25C.
See section 2 for further details. - [Storage]:
7.3. Specific end use(s)
No data available.

8. Exposure controls and personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000094-46-2</td>
<td>ISOPENTYL BENZOATE</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

**Respiratory**
If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

**Eyes**
Protective safety glasses required

**Skin**
Butyl rubber gloves
Layer thickness: 0.7 mm
Breakthrough time: >240 min

**Engineering Controls**
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

**Other Work Practices**
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

---

Page 4 of 9
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Almost Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not Measured</td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>NA</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>260 C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>89 C</td>
</tr>
<tr>
<td>Evaporation rate (Ether = 1)</td>
<td>NA</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Lower Explosive Limit: NA</td>
</tr>
<tr>
<td></td>
<td>Upper Explosive Limit: NA</td>
</tr>
<tr>
<td>Vapor pressure (Pa)</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>NA</td>
</tr>
<tr>
<td>Density</td>
<td>0.99 g/cm3 (@20C)</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not Measured</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>NA</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>NA</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>NA</td>
</tr>
<tr>
<td>VOC %</td>
<td>NA</td>
</tr>
<tr>
<td>Log Pow</td>
<td>4.15 (experimental) (Lit.)</td>
</tr>
</tbody>
</table>

9.2. Other information
No other relevant information.

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Forms explosive mixtures with air on intense heating.
10.5. Incompatible materials
Strong Oxidizing agents.

10.6. Hazardous decomposition products
No hazardous decomposition data available.

11. Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LD50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LD50, mg/L/4hr</th>
<th>Inhalation Gas LD50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPENTYL BENZOATE - (94-46-2)</td>
<td>6330.00, Rat - Category: NA</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
12. Ecological information

12.1. Toxicity
Do not allow product to enter water, wastewater or soil! See Section 3 for chemical specific data.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPENTYL BENZOATE - (94-46-2)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
An appreciable bioaccumulation potential is to be expected (log Po/w >3)

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

14.1. UN number
Not Applicable

14.2. UN proper shipping name
Not Regulated

14.3. Transport hazard class(es)
DOT Hazard Class: Not Applicable
DOT Label: ---

14.4. Packing group
Not Applicable

IMO / IMDG (Ocean Transportation)
Not Regulated
Not Regulated

ICAO/IATA
Not Regulated
Not Regulated

DOT (Domestic Surface Transportation)
Not Applicable

IMDG: Not Applicable
Sub Class: Not Applicable

Air Class: Not Applicable

Not Applicable

Not Applicable
14.5. Environmental hazards
IMDG
Marine Pollutant: No

14.6. Special precautions for user
No further information

15. Regulatory information

Regulatory Overview
The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)
All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification
B3

US EPA Tier II Hazards
Fire: Yes
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): No
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
(No Product Ingredients Listed)

EPCRA 302 Extremely Hazardous:
(No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals:
(No Product Ingredients Listed)

Proposition 65 - Carcinogens (>0.0%):
(No Product Ingredients Listed)

Proposition 65 - Developmental Toxins (>0.0%):
(No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0.0%):
(No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0.0%):
(No Product Ingredients Listed)

N.J. RTK Substances (>1%):
(No Product Ingredients Listed)

Penn RTK Substances (>1%):
(No Product Ingredients Listed)
16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is: not applicable

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

Disclaimer: This information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

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