SAFETY DATA SHEET

1. Identification

Product identifier

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Product name:</th>
<th>Common name(s), synonym(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>762165</td>
<td>TUBE RNA PLH 16X100 2.5 PLBLCE CLR</td>
<td></td>
</tr>
</tbody>
</table>

Other means of identification

SDS number: 088100205553

Recommended use and restriction on use

Recommended use: Scientific and industrial laboratory use. For In Vitro Diagnostic Use.
Restrictions on use: For External Use Only

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: BD Diagnostics, Preanalytical Systems
Address: 1 Becton Drive
07417 Franklin Lakes, NJ USA
Telephone: 1 800 631 0174
Fax: 1 201 847 4866
Contact Person: Technical Services
E-mail: pas_tech_services@bd.com

Emergency telephone number: ChemTrec 1 800 424 9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

- Skin Corrosion/Irritation Category 1B
- Serious Eye Damage/Eye Irritation Category 1
- Skin sensitizer Category 1

Environmental Hazards

- Acute hazards to the aquatic environment Category 2
- Chronic hazards to the aquatic environment Category 2

Label Elements

Hazard Symbol:
Signal Word: Danger

Hazard Statement: H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements


Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients
Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>tartaric acid</td>
<td></td>
<td>87-69-4</td>
<td>5 - &lt;10%</td>
</tr>
<tr>
<td>Tetradecyltrimethylammonium oxalate</td>
<td></td>
<td>154858-16-9</td>
<td>5 - &lt;10%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Causes severe skin burns and eye damage. Get immediate medical advice/attention.

Ingestion: Call a physician or poison control center immediately. Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Inhalation: Move to fresh air. Get medical attention if any discomfort continues.

Skin Contact: Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Get medical attention promptly if symptoms occur after washing.

Eye contact: Important! Immediately rinse with water for 60 minutes. Get medical attention immediately. Continue to rinse.

Most important symptoms/effects, acute and delayed

Symptoms: Symptoms may be delayed.

Hazards: Causes severe skin burns and eye damage.

Indication of immediate medical attention and special treatment needed

Treatment: IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

General Fire Hazards: Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water to keep fire exposed containers cool and disperse vapors.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:

Fire or excessive heat may produce hazardous decomposition products.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:
No unusual fire or explosion hazards noted.

Special protective equipment for fire-fighters:
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Ventilate closed spaces before entering them. Avoid breathing mists or vapors. Keep unauthorized personnel away.

Methods and material for containment and cleaning up:
Stop leak if possible without any risk. Prevent runoff from entering drains, sewers, or streams. Dike far ahead of larger spills for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.

Environmental Precautions:
Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling:
Avoid contact with eyes and prolonged or repeated contact with skin. Avoid inhalation of vapors and spray mists. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Provide good ventilation.

Conditions for safe storage, including any incompatibilities:
Store in original tightly closed container. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures.

8. Exposure controls/personal protection

Control Parameters
Occupational Exposure Limits
None of the components have assigned exposure limits.

Appropriate Engineering Controls
Adequate ventilation should be provided so that exposure limits are not exceeded. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment

General information: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection
Hand Protection: Suitable gloves can be recommended by the glove supplier.

Other: Chemical resistant clothing

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Observe good industrial hygiene practices. Wash at the end of each work shift and before eating, smoking and using the toilet.

9. Physical and chemical properties

Appearance
- Physical state: liquid
- Form: liquid
- Color: Clear

Odor: Odorless

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: No data available.

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits
- Flammability limit - upper (%): No data available.
- Flammability limit - lower (%): No data available.
- Explosive limit - upper (%): No data available.
- Explosive limit - lower (%): No data available.

Vapor pressure: No data available.

Vapor density: No data available.

Relative density: No data available.

Solubility(ies)
- Solubility in water: No data available.
- Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: Product is not reactive under normal conditions and recommended use.

Chemical Stability: No data available.

Possibility of hazardous reactions: Stable; however, may decompose if heated.

Conditions to avoid: Avoid exposure to high temperatures or direct sunlight. Do not freeze.

Incompatible Materials: Avoid contact with oxidizers or reducing agents.

Hazardous Decomposition Products: By heating and fire, corrosive vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Ingestion: No data available.
Inhalation: No data available.
Skin Contact: No data available.
Eye contact: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.
Inhalation: No data available.
Skin Contact: No data available.
Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix: 6,478.87 mg/kg
Dermal Product: No data available.
Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Specified substance(s):
tartaric acid

NOAEL (Rat(Female, Male), Oral, 2 yr): > 12,000 mg/kg Oral Experimental result, Supporting study
NOAEL (Rat(Female), Oral, 104 Weeks): 3,200 mg/kg Oral Read-across from supporting substance (structural analogue or surrogate), Key study
NOAEL (Rat(Female), Oral, 104 Weeks): 3,200 mg/kg Oral Experimental result, Weight of Evidence study
LOAEL (Rat(Female, Male), Oral, 2 - 18 Weeks): 0.5 %(m) Oral Experimental result, Weight of Evidence study
NOAEL (Rat(Female, Male), Oral, 2 - 18 Weeks): 0.1 %(m) Oral Experimental result, Weight of Evidence study

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
tartaric acid

medical monitoring (Human): Irritating Experimental result, Weight of Evidence study
In vitro (Human, Reconstructed Epidermis (EST1000)): Not irritant Experimental result, Supporting study
In vivo (Rabbit): Not irritant Experimental result, Key study
In vitro (Human, Reconstructed Epidermis (EST1000)): Not irritant Experimental result, Supporting study

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
tartaric acid

In vitro (Bovine): Highly irritating Expert judgment

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: Not expected to be harmful to aquatic organisms.

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

tartaric acid

LC 50 (Mysid shrimp, 96 h): 4,300 g/l QSAR QSAR, Supporting study
EC 50 (Daphnia magna, 48 h): 93.313 mg/l Experimental result, Key study
ED 0 (Daphnia magna, 32 h): +/- +/- 135 mg/l Experimental result, Weight of
Evidence study
LC 50 (Daphnia, 48 h): 183 g/l QSAR QSAR, Supporting study
LC 50 (Daphnia magna, 48 h): 538.36 mg/l QSAR QSAR, Weight of Evidence study

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
tartaric acid
LC 50 (Various, 14 d): 488 g/l QSAR QSAR, Supporting study

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

Specified substance(s):
tartaric acid
100 % (14 d) Detected in water. Experimental result, Weight of Evidence study
76 % (14 d) Detected in water. Experimental result, Weight of Evidence study
100 % (14 d) Detected in water. Experimental result, Weight of Evidence study
75 % (14 d) Detected in water. Experimental result, Weight of Evidence study
92 % (14 d) Detected in water. Experimental result, Weight of Evidence study

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
tartaric acid  
Log Kow: -2.02 - -0.76 No Estimated by calculation, Weight of Evidence study

Mobility in soil:  
No data available.

**Known or predicted distribution to environmental compartments**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Data Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>tartaric acid</td>
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<td>Tetradecyltrimethylammonium oxalate</td>
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</tr>
</tbody>
</table>

**Other adverse effects:**  
No data available.

### 13. Disposal considerations

**General information:**  
Dispose of waste and residues in accordance with local authority requirements.

**Disposal instructions:**  
This material and/or its container must be disposed of as hazardous waste.

**Contaminated Packaging:**  
No data available.

### 14. Transport information

**DOT**

- UN Number: Not regulated.
- Proper Shipping Name: Not regulated.
- Transport Hazard Class(es):
  - Class: Not regulated.
  - Label(s): Not regulated.
- Packing Group: Not regulated.
- Marine Pollutant: Not regulated.
- Limited quantity: Not regulated.
- Excepted quantity: Not regulated.
- Special precautions for user: Not regulated.

**IMDG**

- UN Number: Not regulated.
- Proper Shipping Name: Not regulated.
- Transport Hazard Class(es):
  - Class: Not regulated.
  - Subsidiary risk: Not regulated.
  - EmS No.: Not regulated.
- Packing Group: Not regulated.
- Environmental Hazards: Not regulated.
- Marine Pollutant: Not regulated.
- Special precautions for user: Not regulated.
IATA
UN Number: Not regulated.
Proper Shipping Name: Not regulated.
Transport Hazard Class(es):
  Class: Not regulated.
  Subsidiary risk: Not regulated.
Packing Group: Not regulated.
Environmental Hazards
  Marine pollutant: Not regulated.

Special precautions for user: Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
  Immediate (Acute) Health Hazards
  Skin Corrosion or Irritation
  Serious eye damage or eye irritation
  Respiratory or Skin Sensitization

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>tartaric acid</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Tetradecytrimethylammonium oxalate</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

**US. California Proposition 65**
No ingredient requiring a warning under CA Prop 65.

**US. New Jersey Worker and Community Right-to-Know Act**
No ingredient regulated by NJ Right-to-Know Law present.

**US. Massachusetts RTK - Substance List**
No ingredient regulated by MA Right-to-Know Law present.

**US. Pennsylvania RTK - Hazardous Substances**
No ingredient regulated by PA Right-to-Know Law present.

**US. Rhode Island RTK**
No ingredient regulated by RI Right-to-Know Law present.

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

**Issue Date:** 05/08/2019

**Version #:** 3.1

**Revision Information:** No data available.

**Further Information:** No data available.

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