SAFETY DATA SHEET

1. Identification

Product identifier CIDEZYME Enzymatic Detergent

Other means of identification
SDS number 11415-US
Product number 2258, 2260

Recommended use Detergent.

Recommended restrictions Restricted to professional users.

Manufacturer/Importer/Supplier/Distributor information
Company name Advanced Sterilization Products
Address 33 Technology Drive
Irvine, CA 92618
Country US
Telephone number 1-888-783-7723
E-mail ASP-SDS@asp.com

24 Hour Emergency Telephone CHEMTREC US: 1-800-424-9300 CCN 795874
CHEMTREC International: +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Sensitization, respiratory Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

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

Precautionary statement
Prevention Avoid breathing mist. In case of inadequate ventilation wear respiratory protection.
Response If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane -1,2-diol</td>
<td>57-55-6</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Disodium tetraborate decahydrate</td>
<td>1303-96-4</td>
<td>1 - &lt; 3</td>
</tr>
</tbody>
</table>
Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation

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

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Exposure may cause temporary irritation, redness, or discomfort. Sensitization.

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Use extinguishing agent suitable for type of surrounding fire.

Unsuitable extinguishing media

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

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

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

Fire fighting equipment/instructions

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

Specific methods

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

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

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

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling

Avoid breathing mist. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

To maintain product quality, do not store in heat or direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store in original container. Recommended storage temperature: 15 - 30 °C.
8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disodium tetraborate decahydrate (CAS 1303-96-4)</td>
<td>STEL</td>
<td>6 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Subtilisin (CAS 9014-01-1)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disodium tetraborate decahydrate (CAS 1303-96-4)</td>
<td>TWA</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Subtilisin (CAS 9014-01-1)</td>
<td>STEL</td>
<td>0.00006 mg/m³</td>
</tr>
</tbody>
</table>

US. Workplace Environmental Exposure Level (WEEL) Guides

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane -1,2-diol (CAS 57-55-6)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Aerosol.</td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

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

Skin protection
Hand protection
Wear appropriate chemical resistant gloves. Nitrile gloves are recommended.

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

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

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

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Form</th>
<th>Color</th>
<th>Odor</th>
<th>Odor threshold</th>
<th>pH</th>
<th>Melting point/freezing point</th>
<th>Initial boiling point and boiling range</th>
<th>Flash point</th>
<th>Evaporation rate</th>
<th>Flammability (solid, gas)</th>
</tr>
</thead>
</table>
Upper/lower flammability or explosive limits

- **Flammability limit - lower (%)**
  - Not available.
- **Flammability limit - upper (%)**
  - Not available.

**Vapor pressure**
- Not available.

**Vapor density**
- Not available.

**Relative density**
- 1.09

**Solubility(ies)**
- **Solubility (water)**
  - Soluble in water.
- **Partition coefficient (n-octanol/water)**
  - Not available.

**Auto-ignition temperature**
- Not available.

**Decomposition temperature**
- Not available.

**Viscosity**
- Not available.

**Other information**
- **Explosive properties**
  - Not explosive.
- **Oxidizing properties**
  - Not oxidizing.

10. **Stability and reactivity**

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

**Chemical stability**
- Material is stable under normal conditions.

**Possibility of hazardous reactions**
- No dangerous reaction known under conditions of normal use.

**Conditions to avoid**
- Contact with incompatible materials. Heat, flames and sparks. Avoid frost.

**Incompatible materials**
- Strong oxidizers, strong acids, and strong bases. Reducing agents.

**Hazardous decomposition products**
- Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Sulfur dioxide.

11. **Toxicological information**

**Information on likely routes of exposure**

- **Inhalation**
  - In case of inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.

- **Skin contact**
  - Prolonged skin contact may cause temporary irritation.

- **Eye contact**
  - Direct contact with eyes may cause temporary irritation.

- **Ingestion**
  - May cause discomfort if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics**
- Exposure may cause temporary irritation, redness, or discomfort. Sensitization.

**Information on toxicological effects**

- **Acute toxicity**
  - Not expected to be acutely toxic.

**Components** | **Species** | **Test Results**
--- | --- | ---
Disodium tetraborate decahydrate (CAS 1303-96-4) |  |  
**Acute**
- **Dermal**
  - **LD50**
    - Rabbit: > 2000 mg/kg, 24 Hours
**Inhalation**
- **Dust**
  - **LC50**
    - Rat: > 2.04 mg/l, 4 Hours
- **Oral**
  - **LD50**
    - Rat: > 2500 mg/kg
Propane -1,2 -diol (CAS 57-55-6)

**Acute**
- **Dermal**
  - LD50: Rabbit, 20800 mg/kg
- **Oral**
  - LD50: Rat, 22000 mg/kg

**Skin corrosion/irritation**
- Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
- Direct contact with eyes may cause temporary irritation.

**Respiratory or skin sensitization**
- **Respiratory sensitization**
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Skin sensitization**
  - This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**
- No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**
- Not classifiable as to carcinogenicity to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**
- Not listed.

**NTP Report on Carcinogens**
- Not listed.

- Not listed.

**Reproductive toxicity**
- The product contains a small amount of substance that may damage fertility or the unborn child.

**Specific target organ toxicity - single exposure**
- Not classified.

**Specific target organ toxicity - repeated exposure**
- Not classified.

**Aspiration hazard**
- Not an aspiration hazard.

**Chronic effects**
- Prolonged inhalation may be harmful.

**Further information**
- No data available.

### 12. Ecological information

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disodium tetraborate decahydrate (CAS 1303-96-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Limanda limanda</td>
<td>74 mg/l, 4 days</td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas) 79.7 mg/l, 4 days</td>
</tr>
<tr>
<td><strong>Propane -1,2 -diol (CAS 57-55-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Selenastrum capricornutum 19000 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>LC50</td>
<td>Ceriodaphnia 18340 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Pimephales promelas 46500 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
- Expected to be readily biodegradable.

**Bioaccumulative potential**
- The product is not expected to bioaccumulate.

**Mobility in soil**
- No data available.

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

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

Local disposal regulations: Dispose in accordance with all applicable regulations.

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

Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

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

14. Transport information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

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

15. Regulatory information

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

   TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
      Not regulated.
   CERCLA Hazardous Substance List (40 CFR 302.4)
      Not listed.
   SARA 304 Emergency release notification
      Not regulated.
   OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
      Not listed.

Toxic Substances Control Act (TSCA): All components of the mixture on the TSCA 8(b) inventory are designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA):
   SARA 302 Extremely hazardous substance
      Not listed.
   SARA 311/312 Hazardous chemical
      Yes
      Classified hazard categories
         Respiratory or skin sensitization
   SARA 313 (TRI reporting)
      Not regulated.

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

US state regulations:
   US. Massachusetts RTK - Substance List
      Disodium tetraborate decahydrate (CAS 1303-96-4)
US. New Jersey Worker and Community Right-to-Know Act
Disodium tetraborate decahydrate (CAS 1303-96-4)
Propane -1,2 -diol (CAS 57-55-6)

US. Pennsylvania Worker and Community Right-to-Know Law
Disodium tetraborate decahydrate (CAS 1303-96-4)
Propane -1,2 -diol (CAS 57-55-6)

US. Rhode Island RTK
Disodium tetraborate decahydrate (CAS 1303-96-4)
Propane -1,2 -diol (CAS 57-55-6)

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))
Disodium tetraborate decahydrate (CAS 1303-96-4)
Subtilisin (CAS 9014-01-1)

International Inventories

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

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

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

Issue date 06-February-2020
Revision date 15-April-2020
Version # 03
HMIS® ratings
Health: 1*
Flammability: 0
Physical hazard: 0

List of abbreviations
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.

References
HSDB® - Hazardous Substances Data Bank

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