SECTION 1. IDENTIFICATION

Substance name : CIDEX Activated Dialdehyde Solution
ASP

Manufacturer or supplier’s details
Company name of supplier : Advanced Sterilization Products
Address : 33 Technology Drive
Irvine, CA 92618
US
Telephone : (800) 755-5900
Emergency telephone number : (703)527-3887

Recommended use of the chemical and restrictions on use
Recommended use : High level disinfection

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Skin irritation : Category 2
Eye irritation : Category 1
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Specific target organ toxicity - single exposure : Category 3
Acute aquatic toxicity : Category 2

GHS Label element
Medicinal devices are not subject to GHS labeling.
Hazard pictograms : 

Signal word : Danger
Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing diffi-
SAFETY DATA SHEET

Precautionary statements:

**Prevention:**
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves.
- P285 In case of inadequate ventilation wear respiratory protection.

**Response:**
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
- P362 Take off contaminated clothing and wash before reuse.

**Disposal:**
- P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**
None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance / Mixture:** Mixture

**Chemical nature:** Liquid

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,5-pentanediol</td>
<td>111-30-8</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

### SECTION 4. FIRST AID MEASURES

**If inhaled:**
- If breathed in, move person into fresh air.
- Artificial respiration and/or oxygen may be necessary.
- Consult a physician.
In case of skin contact:
Take off contaminated clothing and shoes immediately.
Wash off immediately with plenty of water.
If symptoms persist, call a physician.
Wash contaminated clothing before reuse.

In case of eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Consult a physician.

If swallowed:
If swallowed, rinse mouth with water (only if the person is conscious).
Call a physician immediately.

Most important symptoms and effects, both acute and delayed:
Irritating to skin.
Sensitisation
Causes eye burns.

Notes to physician:
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media:
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during firefighting:
No information available.

Specific extinguishing methods:
Remove undamaged containers from fire area if it is safe to do so.

Further information:
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for firefighters:
In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
In the event of an accidental release the emergency response team must respond based on a risk assessment and use personal protective equipment as appropriate.
Do not breathe vapours or spray mist.
Evacuate personnel to safe areas.

Environmental precautions:
Should not be released into the environment.

Methods and materials for containment and cleaning up:
Large spills + Small spills: Keep in suitable, closed containers for disposal. Treat recovered material as described in the section "Disposal considerations".
Large spills: Dam up. Soak up with inert absorbent material. Keep in properly labelled containers.
Small spills: Gently cover the spill with an absorbent towel or pad.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : No data available

Advice on safe handling : To avoid thermal decomposition, do not overheat.
Avoid inhalation, ingestion and contact with skin and eyes.
For personal protection see section 8.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from heat and sources of ignition.
Store in original container.
To maintain product quality, do not store in heat or direct sunlight.

Recommended storage temperature : 15 - 30 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,5-pentanedial</td>
<td>111-30-8</td>
<td>C</td>
<td>0.2 ppm 0.8 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>1,5-pentanedial</td>
<td>111-30-8</td>
<td>C</td>
<td>0.2 ppm 0.8 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td>1,5-pentanedial</td>
<td>111-30-8</td>
<td>C</td>
<td>0.05 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Engineering measures : All personal protective equipment should be based on a risk assessment. Consult a Environment Health Safety expert if necessary.

Personal protective equipment

Respiratory protection : Engineering controls should always be the primary method of controlling exposures.
If respiratory protective equipment is needed for certain activities, the type as well as the corresponding protection factor will depend upon the risk assessment and air concentrations, hazards, physical and warning properties of substances present.
No personal respiratory protective equipment normally required.
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Hand protection
Material: Neoprene
Remarks: Impervious gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection: Safety glasses with side-shields

Skin and body protection: Wear suitable protective clothing.

Protective measures: The type of protective equipment must be selected based on the Environmental Health and Safety risk assessment. Consult a Environmental Health and Safety expert if necessary.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** liquid

**Colour:** colourless, to, light green

**pH:** 3 - 4.6

8.2 - 9.2

**Evaporation rate:** 1

**Vapour pressure:** 0.0012 hPa (20 °C)

**Relative vapour density:** 1.1

**Solubility(ies)**
- **Water solubility:** completely soluble

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity:** None reasonably foreseeable.

**Chemical stability:** Stable under normal conditions.

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

**Conditions to avoid:** Heat, flames and sparks.
To avoid thermal decomposition, do not overheat.
Incompatible materials:
- Strong oxidizing agents
- Strong acids and strong bases

Hazardous decomposition products:
- None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

**Product:**

**Acute oral toxicity:**
- Acute toxicity estimate: 3,922 mg/kg
  - Method: Calculation method

**Acute inhalation toxicity:**
- Acute toxicity estimate: > 40 mg/l
  - Exposure time: 4 h
  - Test atmosphere: Vapour
  - Method: Calculation method

**Components:**
- **1,5-pentanediol**
  - **Acute oral toxicity:**
    - Assessment: The component/mixture is toxic after single ingestion.
  - **Acute inhalation toxicity:**
    - Assessment: The component/mixture is toxic after short term inhalation.

Skin corrosion/irritation

**Components:**
- **1,5-pentanediol**
  - Result: Corrosive to skin

Serious eye damage/eye irritation

**Components:**
- **1,5-pentanediol**
  - Result: Corrosive to eyes

Respiratory or skin sensitisation

**Components:**
- **1,5-pentanediol**
  - Result: May cause sensitisation by skin contact.
  - Result: Respiratory sensitization

Germ cell mutagenicity

No data available
**Carcinogenicity**

- **IARC**
  No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- **OSHA**
  No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

- **NTP**
  No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

No data available

**STOT - single exposure**

**Components:**

- **1,5-pentanediol**
  Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

No data available

**Aspiration toxicity**

No data available

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

- **Ozone-Depletion Potential**
  - Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
  - Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: In accordance with National, Federal, State and Local regulations.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

ADR
Not dangerous goods

RID
Not dangerous goods

DOT
Not dangerous goods

IATA
Not dangerous goods

IMDG
Not dangerous goods

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307.

**Massachusetts Right To Know**
1,5-pentanedial 111-30-8 1 - 5 %

**Pennsylvania Right To Know**
water 7732-18-5 90 - 100 %
1,5-pentanedial 111-30-8 1 - 5 %

**New Jersey Right To Know**
water 7732-18-5 90 - 100 %
1,5-pentanedial 111-30-8 1 - 5 %

**California Prop 65**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulations**
: Restricted to professional users.

This product is not subject to TSCA and TSCA 12(b) Export notification because Food, Drugs and cosmetic products are exempt.

**The components of this product are reported in the following inventories:**

**REACH**
: Not in compliance with the inventory
: 1,5-pentanediol
: water

**CH INV**
: The formulation contains substances listed on the Swiss Inventory
: 1,5-pentanediol
: water

**TSCA**
: On TSCA Inventory
DSL : All components of this product are on the Canadian DSL.
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : Not in compliance with the inventory
 : water
ISHL : Not in compliance with the inventory
 : water
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA: Flammability
Health
Special hazard.
Instability

HMIS III:

HEALTH
FLAMMABILITY
PHYSICAL HAZARD

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Revision Date : 2015/04/21

Date and Number Formats
This document uses the following notation for printing dates and numbers:
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

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