

## Material Safety Data Sheet

MSDS 006

Rev.: E

Product: CIDEX® Activated Dialdehyde Solution

Issue date: 5/21/07

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Supplier:**

Advanced Sterilization Products  
 33 Technology Drive  
 Irvine, CA 92618

**Customer service telephone:** 1-800-755-5900

**Emergency telephone number:** 877-208-6653

**Product name:** CIDEX Activated Dialdehyde Solution

**Synonyms:** CIDEX Solution

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

The ingredients at their given percentages in this product are not considered hazardous to your health.

Components	CAS Number	Weight %	JNJ - OEL Data (TWA - 8 hr)	JNJ - OEL Data (STEL):	JNJ - OEL Data (Ceiling Limit Value):	JNJ - PBOEL
Glutaraldehyde	111-30-8	2.55	Not Determined	Not Determined	Not Determined	Not Determined

### 3. HAZARDS IDENTIFICATION

**Emergency overview:** Not expected to be flammable or be a significant health hazard.

**Properties affecting health:** May cause sensitization by repeated inhalation and skin contact.

**Principle routes of exposure:**

**Oral:** Can irritate the tissues of mouth, esophagus, and other tissues of the digestive system. Symptoms of over exposure can include vomiting, diarrhea and nausea.  
**Eye contact:** Risk of serious damage to eyes.  
**Skin contact:** May cause skin irritation. May aggravate pre-existing dermatitis.  
**Ingestion:** Ingestion of this material may cause oral thrush, nausea, vomiting, epigastric distress, diarrhea, headache, fatigue, dizziness, insomnia, mental confusion, and impairment.  
**Inhalation:** Inhalation of mist or vapors may be severely irritating to the nose, throat and lungs.

**Hazard information:**

**Target organ effects:** None  
**Reproductive effects:** This material is not reported to cause reproductive effects in humans.  
**Mutagenic effects:** This product is not known to produce mutagenic effects in humans.

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**Sensitization:** May cause sensitization by repeated inhalation and skin contact. Glutaraldehyde has been reported to cause occupational asthma and may aggravate pre-existing asthma, inflammatory or fibrotic pulmonary disease.

**Carcinogenicity rating:**

Components	CAS Number	J&J:	NTP:	IARC:	California Proposition 65 List:
Glutaraldehyde	111-30-8	Not Determined	Not Determined	Not Determined	Not Determined

**Signs and symptoms:** None.

**Medical conditions aggravated by exposure:** Inhalation of vapor may cause asthma-like symptoms (chest discomfort and tightness, difficulty with breathing) as well as aggravate pre-existing asthma and inflammatory or fibrotic pulmonary disease.

#### 4. FIRST AID MEASURES

**Eye contact:** In the case of contact with eyes, rinse immediately with plenty of water for 15 minutes and seek medical attention.

**Ingestion:** Call a physician or Poison Control Center immediately. Do not ingest emetic.

**Inhalation:** Move to fresh air immediately. If experiencing difficulty breathing, seek medical attention.

**Skin contact:** Rinse with water.  
Remove contaminated clothing and wash before re-use.  
Consult a physician if skin redness or irritation persists.

**Protection of first-aiders:** None.

**Notes to physician:** Probable damage to the mucosa from oral exposure may contraindicate the use of gastric lavage.

#### 5. FIRE-FIGHTING MEASURES

<b>Flash point (°F):</b>	Not applicable
<b>Flash point (°C):</b>	Not applicable
<b>Autoignition temperature:</b>	Not applicable
<b>Flammable limits in air - lower (%):</b>	Not applicable
<b>NFPA rating:</b>	Health: 2 Flammability: 0 Reactivity: 0

**Fire Fighting Information**

**Suitable extinguishing media:** Use media appropriate for the surrounding fire.

**Extinguishing media which must not be used for safety reasons:** None

**Specific methods:** None

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products:** None

**Explosivity:** None

**Explosion limits:**  
**lower:** None  
**upper:** None

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Wear eye and skin protection while handling material for clean up.  Avoid breathing vapors and/or mist. Responders should wear gloves, goggles and suitable body protection. Where there is a risk of product contact with shoes, chemical resistant shoe coverings are recommended.
<b>Environmental precautions:</b>	Do not wash down sewers or waterways.
<b>Methods for cleaning up:</b>	Clean-up methods - large spillage Contain spill by placing suitable absorbent material around the edges of the spill and work inward. Carefully scoop up into waste container for disposal. For each estimated gallon of spill disperse about 228g of sodium bisulfite powder (CAS 7631-90-5) or 25 g of glycine (CAS 56-40-6) on spill. Thoroughly blend into CIDEX Solution. Allow 5 minutes for neutralization. Dispose of in accordance with all applicable Federal, State and Local Regulations. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Handling:

#### Technical measures/precautions:

#### Safe handling advice:

Use in well-ventilated area and use with appropriate exhaust ventilation, for example a minimum of 10 air exchanges per hour or as defined by state and local regulations.  
Avoid breathing vapors or mist.  
Avoid contact with skin, eyes and clothing. Remove contaminated clothing and launder before use.

### Storage:

#### Technical measures/storage conditions:

#### Incompatible products:

The product should be stored between 59°F (15°C) and 86°F (30°C).  
Avoid contact with strong acids and bases. Keep from contact with oxidizing material.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering controls:</b>	Ensure adequate ventilation.
<b>Eye protection:</b>	Eye protection required.
<b>Hand protection:</b>	Chemical resistant gloves required.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Respiratory protection:</b>	In case of insufficient ventilation wear suitable respiratory equipment.
<b>Other/general protection:</b>	None required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Unactivated, colorless; Activated, green
Physical state:	Liquid
pH:	3.0-4.6 (unactivated) 8.2-9.2 (activated)
Odor:	Characteristic aldehyde odor
Boiling temperature (°F):	212
Boiling temperature (°C):	100
Freezing point/range (°C):	0
Freezing point/range (°F):	32
Specific gravity:	1.003 g/cc
Vapor density:	1.1
Vapor pressure:	0.0012mm Hg at @ 20C
Evaporation rate:	1.0
Water solubility:	Completely Soluble

## 10. STABILITY AND REACTIVITY

Chemical stability:	Stable under recommended storage conditions.
Hazard polymerization:	Hazardous polymerization does not occur.
Hazardous decomposition products:	None.
Materials to avoid:	Strong acids, bases and oxidizing agents.
Conditions to avoid:	Extremes of temperature, direct sunlight and prolonged heating at temperatures above 40°C

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral Rat (mg/kg): 4800 mg/kg for 2% Solution

### Local effects

Oral: Unknown on product.

Eye irritation: Severe irritant and corrosive to the eye when tested in animals.

Skin irritation: Skin contact may aggravate pre-existing dermatitis.

Inhalation: Inhalation of vapor may cause asthma-like symptoms as well as aggravate pre-existing asthma and inflammatory or fibrotic pulmonary disease.

### Chronic toxicity

Oral: Unknown on product

Inhalation: Unknown on product

Dermal: Unknown on product

### Subchronic toxicity

Oral: Subchronic drinking water studies in rats, mice and dogs using glutaraldehyde concentrations of up to 1000ppm showed no evidence for any target organ toxicity.

Dermal: Unknown on product.

### Specific effects

Corrosive effects: Unknown on product.

Sensitization: When administered to the skin of guinea pigs using the maximization method the compound was found to be a mild sensitizer.

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<b>Target organ effects:</b>	None.
<b>Mutagenic effects:</b>	In vitro studies have given results varying from no genotoxicity to equivocal or weakly positive activity, however, all in vivo studies have been uniformly negative.
<b>Reproductive effects:</b>	Not a reproductive effector in animals.
<b>Developmental effects:</b>	This material is not reported to cause reproductive effects in humans At maternally non-toxic doses, glutaraldehyde does not produce fetotoxic, embryotoxic or teratogenic effects.
<b>Carcinogenic effects:</b>	No carcinogenic effect in rats or mice.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

<b>Ecotoxicity effects:</b>	This product has no known eco-toxicological effects.
<b>Aquatic toxicity effects:</b>	This product has no known aquatic toxicological effects.

<b>Mobility:</b>	Unknown on product
<b>Persistence / degradability:</b>	Unknown on product
<b>Bioaccumulation:</b>	Unknown on product
<b>Degradation:</b>	Unknown on product

## 13. DISPOSAL CONSIDERATIONS

<b>Waste from residues / unused products:</b>	Waste disposal must be in accordance with appropriate US, Federal, State, Local and International regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.
<b>Contaminated packaging:</b>	Do not re-use empty containers.
<b>Methods for cleaning up:</b>	Clean-up methods - large spillage Contain spill by placing suitable absorbent material around the edges of the spill and work inward. Carefully scoop up into waste container for disposal. For each estimated gallon of spill disperse about 228g of sodium bisulfite powder (CAS 7631-90-5) or 25 g of glycine (CAS 56-40-6) on spill. Thoroughly blend into CIDEX Solution. Allow 5 minutes for deactivation. Dispose of in accordance with all applicable Federal, State and Local Regulations. Clean contaminated surface thoroughly.

## 14. TRANSPORT INFORMATION

<b>DOT:</b>	
<b>DOT UN-No:</b>	Not applicable
<b>DOT shipping name:</b>	Not applicable
<b>Hazard class:</b>	Not regulated.
<b>Subsidiary risk (hazard class):</b>	Not applicable
<b>Packing group:</b>	Not applicable
<b>DOT reportable quantity (lbs):</b>	Not applicable
<b>IMO/IMDG:</b>	
<b>Hazard class:</b>	Not regulated
<b>IMDG page:</b>	Not applicable

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IMDG-labels: Not applicable  
Packing group: Not applicable  
MFAG table No.: Not applicable  
Proper shipping name: Not applicable  
UN/Id No.: Not applicable

ADR/RID:  
Hazard class/packing group: Not applicable  
Item: Not applicable  
ADR/RID-labels: Not applicable  
UN/Id No.: Not applicable  
Proper shipping name: Not applicable  
TREM-card: Not applicable

IATA/ICAO:  
Hazard class: Not regulated  
Packing group: Not applicable  
Proper shipping name: Not applicable  
ID/UN No.: Not applicable  
IATA - label: Not applicable  
ERG #: Not applicable

TDG (Canada):  
Status: Not applicable  
Packing group: Not applicable

## 15. REGULATORY INFORMATION

Components	CAS Number	Weight %	ACGIH TLV (TWA - 8hr)	ACGIH TLV (STEL)	ACGIH TLV (Ceiling Limits)
Glutaraldehyde	111-30-8	2.55			0.2 mg/m <sup>3</sup>

Components	CAS Number	Weight %	OSHA (TWA - 8hr)	OSHA (STEL)	OSHA (Ceiling Limits)
Glutaraldehyde	111-30-8	2.55			0.8 mg/m <sup>3</sup>

### SARA (311, 312) hazard class:

Immediate health: None  
Delayed health: None  
Fire: None  
Sudden Release of Pressure Hazard: None  
Reactivity: None

Components	CAS Number	Weight %	New Jersey RTK List:	Pennsylvania RTK List:	Massachusetts RTK List:	Connecticut Hazardous Material List:	Michigan Critical List:
Glutaraldehyde	111-30-8	2.55	Listed.	Listed.	Listed.		

TSCA inventory list: Listed under TSCA: Yes

### WHMIS:

WHMIS trade secret: None  
WHMIS hazard class: None

Canada DSL inventory list: Listed on DSL: Yes

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**Notes:**

1. SARA = Superfund Amendments and the Reauthorization Act.
2. CERCLA = Comprehensive Environmental Response, Compensations and Liability Act.
3. FIFRA = Federal Insecticide, Fungicide and Rodenticide Act
4. TSCA = Toxic Substance Control Act
5. WHMIS = Canadian Workplace Hazardous Materials Information System
6. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**16. OTHER INFORMATION**

**This data sheet contains changes from the previous version in section(s):**

None

**Additional advice** None

**Literary Reference:** None

**MSDS format:** North American Format - U.S. and Canada  
This Material Safety Data Sheet was prepared in accordance with OSHA 29 CFR 1910.1200.

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**End of Safety Data Sheet**