



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** CIDEX Plus 28 Day Solution  
**Issue date** 9/14/12  
**Change Order #** 1005190  
**CAS #** Mixture  
**Revision #** G  
**MSDS Number** 007  
**Manufacturer/Supplier** Advanced Sterilization Products  
33 Technology Drive, Irvine  
CA 92618  
**Telephone number** 1-800-755-5900  
**Emergency** 24-Hour phone (Access code): 1-760-476-3962 (333623)

## 2. Hazards Identification

**Physical state** Liquid.  
**Appearance** Unactivated, colorless liquid; Activated, green liquid.  
**Emergency overview** WARNING  
Causes skin, eye and respiratory tract irritation. May cause sensitization by skin contact.  
**OSHA regulatory status** This product is hazardous according to OSHA 29 CFR 1910.1200.  
**Potential health effects**  
**Routes of exposure** Inhalation. Ingestion. Skin contact. Eye contact.  
**Eyes** Risk of serious damage to eyes.  
**Skin** May cause skin irritation. May cause allergic skin reaction.  
**Inhalation** Vapor may cause irritation of the upper respiratory tract (nose and throat) and lungs. May cause asthma-like symptoms in sensitive individuals.  
**Ingestion** Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. Ingestion of this product may cause nausea, vomiting and diarrhea.  
**Target organs** Eye Skin  
**Chronic effects** Not known.  
**Signs and symptoms** Sensitization. Irritation of eyes and mucous membranes. Skin irritation. Upper respiratory tract irritation.  
**Potential environmental effects** 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.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
Polyethylene glycol	25322-68-3	<20
Glutaraldehyde	111-30-8	<5

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

## 4. First Aid Measures

**First aid procedures**  
**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.  
**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation develops and persists.  
**Inhalation** Remove victim to fresh air. If breathing is difficult, give oxygen. Get medical attention.

~Verified on 2013-02 by Henry Schein to be the most current version of the MSDS. To be verified again on 2016-02. ~

<b>Ingestion</b>	Immediately rinse mouth and drink plenty of water. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. If person becomes uncomfortable seek medical advice.
<b>Notes to physician</b>	If the product is ingested, probable mucosal damage may contraindicate the use of gastric lavage. Treat the affected person appropriately.
<b>General advice</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

<b>Flammable properties</b>	Fire or high temperatures create:
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Extinguish with water spray, carbon dioxide, dry chemical or material appropriate for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None.
<b>Protection of firefighters</b>	
<b>Protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do it without risk.
<b>Hazardous combustion products</b>	Carbon oxides.

## 6. Accidental Release Measures

<b>Personal precautions</b>	Avoid inhalation and contact with skin and eyes. Use personal protection as recommended in Section 8 of the MSDS.
<b>Environmental precautions</b>	Avoid discharge into storm drains, water courses or onto the ground.
<b>Methods for containment</b>	Stop leak if you can do so without risk.
<b>Methods for cleaning up</b>	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 25g of glycine (56-40-6) on spill. Thoroughly blend into CIDEX Solution. Allow 5 minutes for neutralization. Dispose of in accordance with applicable Federal, State and Local Regulations. Following product recovery, flush area with water.
<b>Other information</b>	Clean up in accordance with all applicable regulations.

## 7. Handling and Storage

<b>Handling</b>	Provide adequate ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. 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. Use appropriate Personal Protective Equipment. Wash thoroughly after handling. Observe good industrial hygiene practices.
<b>Storage</b>	Store in closed original container at temperatures at 15 - 30°C (59 - 86°F). Store away from incompatible materials.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.05 ppm

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.2 mg/m <sup>3</sup> 0.05 ppm

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.05 ppm

**Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)**

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.05 ppm

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.41 mg/m <sup>3</sup> 0.1 ppm

**Mexico. Occupational Exposure Limit Values**

Components	Type	Value
Glutaraldehyde (111-30-8)	Ceiling	0.7 mg/m <sup>3</sup> 0.2 ppm

<b>Exposure guidelines</b>	Use personal protective equipment as required. Keep working clothes separately.
<b>Engineering controls</b>	Provide adequate ventilation and minimize the risk of inhalation of vapors and mists. 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.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Wear safety glasses with side shields.
<b>Skin protection</b>	Wear chemical-resistant, impervious gloves. Suitable gloves can be recommended by the glove supplier. Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of risk of inhalation of vapour/aerosols: Use high efficiency particulate respirator with appropriate filter.
<b>General hygiene considerations</b>	Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

**9. Physical & Chemical Properties**

<b>Appearance</b>	Unactivated, colorless liquid; Activated, green liquid.
<b>Color</b>	Unactivated, colorless; Activated, green.
<b>Odor</b>	Characteristic aldehyde.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>pH</b>	3.2 - 4.3 (unactivated) 7.5 - 8.1 (activated)
<b>Melting point</b>	Not available.
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	1
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	1.1
<b>Specific gravity</b>	1.029
<b>Solubility (water)</b>	Completely Soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	212 °F (100 °C)
<b>Decomposition temperature</b>	Not available.

**10. Chemical Stability & Reactivity Information**

<b>Chemical stability</b>	Stable under normal temperature conditions.
<b>Conditions to avoid</b>	Extremes of temperature, direct sunlight and prolonged heating at temperature above 40°C.

<b>Incompatible materials</b>	Strong oxidizers, strong acids, and strong bases.
<b>Hazardous decomposition products</b>	Carbon oxides.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

## 11. Toxicological Information

### Toxicological data

Product	Test Results
CIDEX Plus 28 Day Solution (Mixture)	Acute Dermal LD50 Rabbit: > 2000 mg/kg Acute Oral LD50 Rat: 4250 mg/kg
<b>Acute effects</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Local effects</b>	Causes skin and eye irritation. May cause irritation of respiratory tract.
<b>Sensitization</b>	May cause allergic skin reaction.
<b>ACGIH Sensitizer</b>	
Glutaraldehyde (CAS 111-30-8)	Sensitizer.
<b>Chronic effects</b>	Not known.
<b>Carcinogenicity</b>	Not classified.
<b>ACGIH Carcinogens</b>	
Glutaraldehyde (CAS 111-30-8)	A4 Not classifiable as a human carcinogen.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Reproductive effects</b>	Not classified.
<b>Symptoms and target organs</b>	Sensitizing. Skin irritation. Irritation of eyes and mucous membranes. Upper respiratory tract irritation.
<b>Further information</b>	No other specific acute or chronic health impact noted.

## 12. Ecological Information

### Ecotoxicological data

Components	Test Results
Polyethylene glycol (25322-68-3)	LC50 Atlantic salmon ( <i>Salmo salar</i> ): > 1000 mg/l 96 hours
<b>Ecotoxicity</b>	Not expected to be harmful to aquatic organisms.
<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation / Accumulation</b>	No data available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Mobility in environmental media</b>	The product is soluble in water.

## 13. Disposal Considerations

<b>Disposal instructions</b>	Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environment agency for specific rules). Do not dump in sewers, any body of water or on the ground.
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## 14. Transport Information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**TDG**

Not regulated as dangerous goods.

**15. Regulatory Information****US federal regulations**This product is hazardous according to OSHA 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.**TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****Hazard categories**Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No**Section 302 extremely hazardous substance (40 CFR 355, Appendix A)**

No

**Section 311/312 (40 CFR 370)**

No

**Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)**

Not controlled

**WHMIS status**

Controlled

**WHMIS classification**D1B - Immediate/Serious-TOXIC  
D2B - Other Toxic Effects-TOXIC  
E - Corrosive**WHMIS labeling****Inventory status**

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

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations****US - California Hazardous Substances (Director's): Listed substance**

Glutaraldehyde (CAS 111-30-8) Listed.

**US - Massachusetts RTK - Substance: Listed substance**

Glutaraldehyde (CAS 111-30-8) Listed.

**US - New Jersey RTK - Substances: Listed substance**

Glutaraldehyde (CAS 111-30-8)

Listed.

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

Glutaraldehyde (CAS 111-30-8)

Listed.

**16. Other Information**

**HMIS® ratings**

Health: 2  
Flammability: 0  
Physical hazard: 0

**NFPA ratings**

Health: 2  
Flammability: 0  
Instability: 0

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** Activator for CIDEX Plus 28 Day Solution  
**Issue date** 9/14/12  
**Change Order #** 1005190  
**CAS #** Mixture  
**Revision #** E  
**MSDS Number** 012  
**Manufacturer/Supplier** Advanced Sterilization Products  
33 Technology Drive, Irvine  
CA 92618  
**Telephone number** 1-800-755-5900  
**Emergency** 24-Hour phone (Access code): 1-760-476-3962 (333623)

## 2. Hazards Identification

**Physical state** Liquid.  
**Appearance** Dark green liquid  
**Emergency overview** Not regarded as a health hazard under current legislation.  
**OSHA regulatory status** This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).  
**Potential health effects**  
**Routes of exposure** Inhalation. Ingestion. Skin contact. Eye contact.  
**Eyes** May cause eye irritation on direct contact.  
**Skin** Prolonged skin contact may cause temporary irritation.  
**Inhalation** May be irritating to the respiratory tract - effects are reversible.  
**Ingestion** Ingestion may cause irritation and malaise.  
**Target organs** Respiratory system Eye Skin  
**Chronic effects** Not known.  
**Signs and symptoms** Skin irritation. Irritation of eyes and mucous membranes. Upper respiratory tract irritation.  
**Potential environmental effects** 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.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
Potassium acetate	127-08-2	<40
Polyphosphoric acids, esters with triethanolamine, sodium salts	68131-72-6	<30

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

## 4. First Aid Measures

### First aid procedures

**Eye contact** Flush thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.  
**Skin contact** Wash skin thoroughly with soap and water. Get medical attention if irritation develops and persists.  
**Inhalation** Remove victim to fresh air. If breathing is difficult, give oxygen. Get medical attention.  
**Ingestion** Immediately rinse mouth and drink plenty of water. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. If person becomes uncomfortable seek medical advice.  
**Notes to physician** Treat symptomatically.

**General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

**Flammable properties** Fire or high temperatures create:

### Extinguishing media

**Suitable extinguishing media** Extinguish with water spray, carbon dioxide, dry chemical or material appropriate for the surrounding fire.

**Unsuitable extinguishing media** None.

### Protection of firefighters

**Specific hazards arising from the chemical** None.

**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 it without risk.

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

**Hazardous combustion products** None known.

## 6. Accidental Release Measures

**Personal precautions** Avoid inhalation and contact with skin and eyes. Use personal protection as recommended in Section 8 of the MSDS.

**Environmental precautions** Avoid discharge into storm drains, water courses or onto the ground.

**Methods for containment** Stop leak if you can do so without risk.

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

**Other information** Clean up in accordance with all applicable regulations.

## 7. Handling and Storage

**Handling** Provide adequate ventilation. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Use appropriate Personal Protective Equipment. Observe good industrial hygiene practices.

**Storage** Store in closed original container at temperatures at 15 - 30°C (59 - 86°F).

## 8. Exposure Controls / Personal Protection

**Occupational exposure limits** No exposure limits noted for ingredient(s).

**Engineering controls** Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

**Eye / face protection** Wear safety glasses with side shields.

**Skin protection** Wear chemical-resistant, impervious gloves. Suitable gloves can be recommended by the glove supplier. Wear suitable protective clothing.

**Respiratory protection** Under normal conditions, respirator is not normally required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical & Chemical Properties

**Appearance** Dark green liquid

**Color** Dark green.

**Odor** Vinegar-like.

**Odor threshold** Not available.

**Physical state** Liquid.

**Form** Liquid.

**pH** 7.8 - 8.2

**Melting point** Not available.



<b>Freezing point</b>	Not available.
<b>Boiling point</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Specific gravity</b>	Not available.
<b>Solubility (water)</b>	Soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions.
<b>Conditions to avoid</b>	Temperatures above 40 °C
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Carbon oxides. Potassium oxides. Sodium oxides. Nitrogen compounds. Phosphorus compounds.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

## 11. Toxicological Information

<b>Acute effects</b>	Ingestion may cause irritation and malaise.
<b>Local effects</b>	May cause eye irritation on direct contact. Prolonged skin contact may cause temporary irritation. May be irritating to the respiratory tract - effects are reversible.
<b>Sensitization</b>	Not classified.
<b>Chronic effects</b>	Not known.
<b>Carcinogenicity</b>	Not classified.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Reproductive effects</b>	Not classified.
<b>Symptoms and target organs</b>	Skin irritation. Irritation of eyes and mucous membranes. Upper respiratory tract irritation.
<b>Further information</b>	No other specific acute or chronic health impact noted.

## 12. Ecological Information

<b>Ecotoxicity</b>	Not expected to be harmful to aquatic organisms.
<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation / Accumulation</b>	No data available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Mobility in environmental media</b>	The product is soluble in water.

## 13. Disposal Considerations

<b>Disposal instructions</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Waste from residues / unused products** Dispose in accordance with all applicable regulations.

**Contaminated packaging** 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.

### TDG

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is not hazardous according to OSHA 29CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

### TSCA Section 12(b) Export Notification(40 CFR 707, Subpt. D)

Not regulated.

### CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**  
Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance (40 CFR 355, Appendix A)**  
No

**Section 311/312 (40 CFR 370)**  
No

**Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)**  
Not controlled

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**WHMIS status** Non-controlled

### Inventory status

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

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Mexico regulations**

This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

**16. Other Information**

**HMIS® ratings**

Health: 1  
Flammability: 0  
Physical hazard: 0

**NFPA ratings**

Health: 1  
Flammability: 0  
Instability: 0

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.

~Verified on 2013-02 by Henry Schein to be the most current version of the MSDS. To be verified again on 2016-02. ~