



# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product: Chlorhexidine Gluconate Solution**  
**This MSDS is valid for all grades and catalog #'s**

Synonyms: Chlorhexidine Digluconate Solution  
Formula: Not applicable.  
Manufacturer: PHARMCO-AAPER  
58 Vale Road  
Brookfield, Connecticut 06804, USA  
Phone (203) 740-3471  
Fax (203) 740-3481  
  
1101 Isaac Shelby Drive  
Shelbyville, KY 40065  
Phone (502) 633-0650  
Fax (502) 633-0685

Emergency Contact:  
CHEMTREC 1-800-424-9300

## SECTION II

### COMPOSITION / INFORMATION ON INGREDIENTS

% by Material CAS # TLV/PEL LC50/LD50  
weight

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
19-21	Chlorhexidine gluconate	18472-51-0	Not available	ORAL (LD50): Acute: 2000 mg/kg [Rat]. 1260 mg/kg [Mouse].
79-81	Water	7732-18-5	Not available	ORAL (LD50): Acute: >90000 mg/kg [Rat].

## SECTION III

### HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

## SECTION IV

### FIRST AID

Obtain medical attention for all cases of over-exposure.  
**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.  
**Skin Contact:** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.  
**Hazardous Skin Contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.  
**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.  
**Hazardous Inhalation:** Not available.  
**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.  
**Hazardous Ingestion:** Not available.

## SECTION V

### FIRE FIGHTING MEASURES

**Fire:**  
Flammability of the Product: May be combustible at high temperature.  
Auto-Ignition temperature: Not available.  
Flash point: Not available.  
Flammable limits: Not available.  
Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...), halogenated compounds.  
**Fire Hazards:** Slightly flammable to flammable in presence of heat. Non-flammable in presence of open flames and sparks, of shocks, of oxidizing materials, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.  
**Explosion Hazards:** Non-explosive in presence of open flames and sparks, of shocks.  
**Fire Extinguishing Media:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.  
**Special Information:** Not available.

## SECTION VI

## SPILL/ACCIDENTAL RELEASE MEASURES

**Small Spill:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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## SECTION VII HANDLING AND STORAGE

**Precautions:** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

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## SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:** Splash goggles. Lab coat. Gloves. Respiratory protection is not necessary if material is handled according to normal handling conditions and if there is adequate general room ventilation or local exhaust (fume hood) is used. A vapor respirator may be recommended if handling of material produces vapor or mist and/or if handled in an area where ventilation is inadequate. Be sure to use an approved/certified respirator or equivalent.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

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## SECTION IX PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Liquid.

**Molecular Weight:** Not applicable.

**Odor:** Not available.

**Taste:** Not available.

**Color:** Clear. Colorless to light yellow.

**pH (1% Solution in Water):** Neutral.

**Boiling Point:** 97°C (206.6°F)

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** 1.06 (Water = 1)

**Vapor Pressure (mm Hg):** The highest known value is 2.3 kPa (@ 20°C) (Water).

**Vapor Density (Air=1):** The highest known value is 0.62 (Air = 1) (Water).

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** Not available.

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily soluble in cold water, hot water.

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## SECTION X STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat

**Incompatibilities:** Not available.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:** Not available.

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## SECTION XI TOXICOLOGICAL INFORMATION

**Routes of Entry:** Skin contact. Eye contact. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 6300 mg/kg (Mouse) (Calculated value for the mixture).

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of ingestion. Slightly hazardous in case of inhalation. Non-permeator by skin.

**Special Information on Toxicity to Animals:** Not available.

**Special Information on Chronic Effects/Toxicity on Humans:** May affect genetic material (mutagenic)

(Chlorhexidine gluconate) Acute Potential Health Effects:

on other Toxic Skin: Causes skin irritation. Eyes: Causes eye irritation. It causes conjunctivitis and permanent corneal opacification. It can cause corneal injury. Inhalation:

Inhalation of mist or vapor may cause respiratory tract irritation. Ingestion: It causes digestive/gastrointestinal tract (mouth, throat, tongue) irritation, taste disturbance.

May cause ulceration of oral mucosa, and possible burns. It may affect the liver. Note: Studies have shown that acute ulcerative colitis has been described following an enema with 4% chlorhexidine. It is not known which chlorhexidine salt was used. Note: Chlorhexidine mouthwashes may

discolor teeth and tongue and give them a black or brown coloration. Chronic Potential Health Effects: Skin:

Prolonged or repeated skin contact may cause contact dermatitis, anaphylactoid/hypersensitivity reaction, and photosensitivity.

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## SECTION XII ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic than the product itself.

**Special Information on Products of Biodegradation:** Not available.

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### SECTION XIII DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities.

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### SECTION XIV TRANSPORTATION INFORMATION

**DOT Classification:** DOT Not a DOT controlled material (United States).

**UN:** Not applicable

**Special Provisions for Transport:** Not applicable

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### SECTION XV REGULATORY INFORMATION

**Federal and State Regulations:** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Pennsylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: **NONE**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: **No products were found.**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: **No products were found.**

**Other Classifications:**

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R38- Irritating to skin. R41- Risk of serious damage to eyes.

**Protective Equipment:** Gloves. Lab coat. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**References:** Not available.

**Other Special Considerations:** Disinfectant used in antiseptics and mouthwashes (Chlorhexidine gluconate)

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or

becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.