



DINATEC

Quality You Can Trust

SEPTEMBER 9, 2006

**MATERIAL SAFETY DATA SHEET
DISINFEKT 1000®**

IDENTIFICATION

Product name: Disinfekt 1000®
Chemical name: Glutaraldehyde, 20% formulated aqueous solution
Chemical family: Mixture
Formula: Mixture
Molecular weight: Mixture
Synonyms: None
CAS # and name: See Section III, "Ingredients"

II. PHYSICAL DATA

(Determined on Typical Material)

Boiling point, 760 mm Hg: ~100.5° C (~213°F)
Specific gravity (H₂O=1): 1.053 at 20/20 C
Freezing point: -4°C (24.8°F)
Vapor pressure at 20°C: ~16 mm Hg
Vapor density (Air=1): 0.77
Evaporation rate
(Butyl Acetate=1): 0.88
Solubility in water by wt: 100% at 20°C
Appearance: Transparent yellow
Odor: Perfumed
Physical state: Liquid

III. INGREDIENTS

%	Material	Cas #	Exposure Limit
20	Glutaraldehyde	111-30-8	See section V
~80	Water Surfactant	Trade secret	None established
0.20	Methanol	67-56-1	See section V

IV. FIRE AND EXPLOSION HAZARD DATA

Flash point (test method): None
Tag closed cup ASTM D 56 None
Tag open cup ASTM D 1310
Flammable limits in air % by volume: Lower: Not determined, aqueous system
Upper: Not determined, aqueous system

Special fire fighting procedures: Use self-contained breathing apparatus and protective clothing.

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Extinguishing media:	Non-flammable (aqueous solution): After water evaporates, remaining material will burn. Use alcohol-type or all-purpose-type foam, applied by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.
Unusual fire and explosion hazards:	None

V. HEALTH HAZARD DATA

Exposure limit(s): Glutaraldehyde: 0.2 ppmv Ceiling, OSHA & ACGIH
Methanol: 200 ppm TWA (skin), OSHA & ACGIH
250 ppm STEL (skin), OSHA & ACGIH

EFFECTS OF SINGLE OVEREXPOSURE:

Swallowing: Moderately toxic. May cause moderate to marked irritation or chemical burns of the mouth, throat, chest, and abdomen, nausea, vomiting, diarrhea, dizziness, faintness, drowsiness, weakness, thirst, circulatory collapse, and coma.

Skin adsorption: No evidence of harmful effects from available information.

Inhalation: Vapor is irritating to the respiratory tract, causing stinging sensations in the nose and throat, discharge from the nose, possibly bleeding from the nose, coughing, chest discomfort and tightness, difficulty breathing, and headache.

Skin contact: Brief contact will cause itching with mild to moderate local redness and possibly swelling. Prolonged contact may result in pain, severe redness and swelling, with ulceration, tissue destruction, and possibly bleeding into the inflamed area.

Eye contact: Liquid will cause a severe and persistent conjunctivitis, seen as excess redness and marked swelling of the conjunctiva with profuse discharge. Severe corneal injury may develop, which could permanently impair vision if prompt first-aid and medical treatment are not obtained. Vapor will cause stinging sensations in the eye with excess tear production, blinking, and possibly a slight excess redness of the conjunctiva.

Effects of repeated overexposure: Repeated skin contact may cause a cumulative dermatitis.

Medical conditions aggravated by overexposure: Skin contact may aggravate an existing dermatitis. Inhalation of material may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Significant laboratory data with possible relevance to human health hazard evaluation: Studies in humans have shown that glutaraldehyde is neither phytotoxic nor a photosensitizer. Sub-chronic drinking water studies in rats, mice, and dogs using concentrations up to 1000 ppm showed no evidence for any target organ toxicity. In vitro studies for genotoxicity using a variety of assays have given results varying from no activity, though equivocal, to weakly positive; however, all in vivo studies for genotoxicity have been uniformly negative.

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Several developmental toxicity studies have demonstrated that at maternally nontoxic doses, glutaraldehyde does not product phytotoxic, embryo toxic or teratogenic effects. In a chronic (2 year) continuous drinking water combined chronic toxicity-oncogenicity study using Fisher 344 rats, there was no evidence for non-oncogenic target organ toxicity. The only possible oncogenicity-related finding was an increase in the incidence of large granular cell lymphocytic leukemia in female, but not male, rats. The pattern of the response suggests that it does not represent direct chemical carcinogenic activity but, rather, a modifying influence on the expression of this spontaneous and commonly occurring neoplasm in the Filcher 344 rat.

Other effects of overexposure:

May cause skin sensitization in a small portion of individuals and present as an allergic contact dermatitis. This usually results from contact with the liquid, but occasionally there may be a reaction to glutaraldehyde vapor. Will cause signs and symptoms of an asthmatic attack in hyper-reactive individuals.

EMERGENCY AND FIRST AID PROCEDURES:

Swallowing: DO NOT INDUCE VOMITING. Do not give anything to drink. Obtain medical attention without delay.

Skin: Immediately remove contaminated clothing and shoes. Wash skin with soap and water. Obtain medical attention. Wash clothing before reuse. Discard contaminated leather articles such as shoes and belt.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

Eyes: Immediately flush eyes with water and continue washing for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

NOTE TO PHYSICIAN: The hazards of this material are due mainly to its severely irritant properties on skin and mucosal surfaces. Moderately toxic by swallowing. Moderately toxic by absorption across the skin. Due to the severely irritating or corrosive nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract with haemorrhagia and fluid loss. Also, perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and the resultant complications. The stomach should be evacuated carefully in case of ingestion. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (e.g., gastric lavage after endotracheal intubation).

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VI. REACTIVITY DATA

Stability:	Stable
Conditions to avoid:	Avoid high temperature and evaporation of water.
Incompatibility: (materials to avoid)	Alkalies catalyze and aldol-type condensation (exothermic, but not expected to be violent.)
Hazardous combustion or decomposition products:	Burning can product the following products: Carbon monoxide and/or carbon dioxide; Carbon monoxide is highly toxic if inhaled, carbon dioxide in sufficient concentrations can act as an asphyxiant.
Hazardous polymerization:	Will not occur
Conditions to avoid:	Temperatures above 100 C; although polymerization may occur, it is not hazardous.

VII. SPILL OR LEAK PROCEDURES

Steps to be taken if material is released or spilled:

Wear suitable protective equipment. Toxic to fish; avoid discharge to natural waters. Very low concentration (10 ppm or less) can be degraded in a biological treatment system. Thus, small spills can be flushed with large quantities of water. Large quantities or 'slugs' can be harmful to the treatment system. Thus, large spills should be collected for disposal. It may also be possible to decontaminate spilled material by careful application of aqueous sodium hydroxide or Di-basic ammonium phosphate solution. Depending on conditions, considerable heat and fumes can be liberated by the decontamination reaction.

Waste disposal method: Atomize into a very hot incinerator fire or mix with a suitable flammable solvent, and incinerate where permitted under appropriate Federal, State, and local regulations. High water content may dampen flame.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection:	Use self-contained breathing apparatus in high vapor concentrations. If self-contained breathing apparatus is not available, a MSHA/NIOSH approved air purifying respirator equipped with an organic vapor cartridge should be used.
Ventilation:	General (mechanical) room ventilation is expected to be satisfactory if this material is kept in covered equipment or if the solution is highly diluted. However, if vapors are strong enough to be irritating to the nose (or eyes) the TLV is probably being exceeded and special ventilation may be required.
Protective gloves:	Rubber gloves; Nitrile (NBR); Butyl; Polyethylene
Eye protection:	Monogoggles or Face shield

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Other protective equipment: Chemical apron; Eye bath; Safety shower; Rubber boots

IX. SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage:

DANGER! Causes irreversible eye damage. Corrosive. Harmful if swallowed. Harmful if inhaled. Causes skin irritation. May cause skin sensitization. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing, and rubber gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

FOR INDUSTRY USE ONLY

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA:

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 to 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

Superfund Amendments and Re-authorization 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 Re-authorization Act of 1986 (SARA) Title III requires submission of annual reports of toxic chemicals that appear in 40 CFR 372 (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

Toxic Substances Control Act (TSCA) status: The ingredients of this product are on the TSCA inventory.

STATE RIGHT-TO-KNOW:

CALIFORNIA Proposition 65

This product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

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:

Hazardous Substances (= > 1%)

Chemical

CAS #

Upper bound concentration %

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Glutaraldehyde
PENNSYLVANIA

111-30-8 20

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:
Hazardous Substances (= > 1%)

<u>Chemical</u>	<u>CAS #</u>	<u>Upper bound concentration %</u>
Glutaraldehyde	111-30-8	20

CALIFORNIA

SCAQMD rule 443.1 VOC's:
Volatiles = substances with a vapor pressure of = > 0.5 mmHg at 104 C (219.2 F).
This product contains:
218.05 g/liter VOC
1131.06 g/liter of Material less Exempted Compounds.

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Immediate Health, Delayed Health

NOTE:

The opinions expressed herein are those qualified experts within DINATEC. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of the use of the product are not under the control of DINATEC, it is the user's obligation to determine condition of safe use of the product.

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