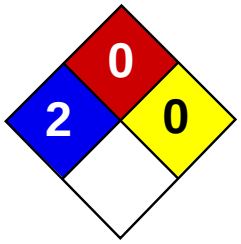

Health	2
Fire	0
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Glutaraldehyde Solution, 50% MSDS

Section 1: Chemical Product and Company Identification

Product Name: Glutaraldehyde Solution, 50%

Catalog Codes: SLG2182

CAS#: Mixture.

RTECS: MA2450000

TSCA: TSCA 8(b) inventory: Glutaraldehyde; Water

CI#: Not available.

Synonym: Glutaraldehyde Solution, 50%; Petanedial; Glutaric Dialdehyde, 50% in water

Chemical Name: Not applicable.

Chemical Formula: C5-H8-O2

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Glutaraldehyde	111-30-8	50
Water	7732-18-5	50

Toxicological Data on Ingredients: Glutaraldehyde: ORAL (LD50): Acute: 134 mg/kg [Rat]. 100 mg/kg [Mouse]. DERMAL (LD50): Acute: >2500 mg/kg [Rat]. >5840 mg/kg [Mouse]. VAPOR (LC50): Acute: 480 mg/m 4 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant, lung sensitizer). Slightly hazardous in case of skin contact (sensitizer, permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Glutaraldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Glutaraldehyde]. Mutagenic for bacteria and/or yeast. [Glutaraldehyde]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female,

Reproductive system/toxin/male [SUSPECTED] [Glutaraldehyde]. The substance may be toxic to blood, the reproductive system, liver, mucous membranes, spleen, central nervous system (CNS), Urinary System. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

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.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
If swallowed, 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 immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: When heated to decomposition, it emits acrid smoke and fumes.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: 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.

Large Spill:
Poisonous liquid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up.. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, alkalis.

Storage:
Light Sensitive. Refrigerate. Store in light-resistant containers. Keep containers tightly closed. Keep containers in a cool, well-ventilated area.

Section 8: 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. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Glutaraldehyde TWA: 0.2 (ppm) [Australia] TWA: 0.82 (mg/m3) [Australia] TWA: 0.25 CEIL: 0.2 (ppm) from NIOSH CEIL: 0.2 (ppm) from OSHA (PEL) [United States] TWA: 0.05 STEL: 0.05 (ppm) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pungent. Like rotten apples

Taste: Not available.

Molecular Weight: Not applicable.

Color: Colorless to light yellow.

pH (1% soln/water): Not available

Boiling Point: 101°C (213.8°F)

Melting Point: -6°C (21.2°F) - -7

Critical Temperature: Not available.

Specific Gravity: 1.062 - 1.124 (Water = 1)

Vapor Pressure: 0 kPa (@ 20°C)

Vapor Density: 1.05 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.04 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:
Easily soluble in cold water. Soluble in diethyl ether. Soluble in benzene, ethanol and other organic solvents.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Conditions to avoid: exposure to air, and excess heat. (Glutaraldehyde)

Incompatibility with various substances: Reactive with oxidizing agents, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Also incompatible with amines, ammonia and other caustics (e.g. ammonium hydroxide, calcium hydroxide, potassium hydroxide, and sodium hydroxide). Alkaline solutions react with alcohol, ketones, amines, hydrazines and proteins. (Glutaraldehyde)

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 100 mg/kg [Mouse]. Acute dermal toxicity (LD50): >2500 mg/kg [Rat]. Acute toxicity of the vapor (LC50): 480 mg/m 4 hours [Rat]. 3

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Glutaraldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Glutaraldehyde]. Mutagenic for bacteria and/or yeast. [Glutaraldehyde]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED] [Glutaraldehyde]. Contains material which may cause damage to the following organs: blood, the reproductive system, liver, mucous membranes, spleen, central nervous system (CNS), Urinary system.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant, lung sensitizer). Slightly hazardous in case of skin contact (sensitizer, permeator).

Special Remarks on Toxicity to Animals:
Acute Toxicity: LD50 [Rabbit] dermal: Dose: 560 ul/kg. Reproductive Effects: TDL [male Rat] oral: Dose: 875 mg/kg given 35 days prior to mating TDL [female rat] oral: Dose 4370 mg/kg given 35 days prior to mating. (Glutaraldehyde)

Special Remarks on Chronic Effects on Humans:

May affect genetic material. Reproductive Effects in animals (rat): Paternal effects: testes, epididymis, sperm duct, prostate, seminal vesicle, Cowper's gland, accessory. Maternal effects: uterus, cervix, vagina (Glutaraldehyde)

Special Remarks on other Toxic Effects on Humans:
Potential Health Effects: Eye: Causes severe eye irritation. May cause eye injury or chemical conjunctivitis. Skin: Causes moderate to severe skin irritation. It may be absorbed through the skin, although poorly. May cause allergic contact dermatitis with itching and skin rash. May cause staining of the skin and nails to a brown or golden brown color. Ingestion: Harmful if swallowed. May cause severe irritation of the digestive tract with burning sensation in the chest, abdominal pain, cramping, vomiting, diarrhea (perhaps bloody diarrhea), vascular collapse, and coma. May also affect liver (increased liver enzymes, liver damage), spleen, blood (normocytic anemia), metabolism (weight loss), behavior (somnolence, excitement, dizziness, lethargy, ataxia, seizures), metabolism (weight loss), urinary system (abnormal reneal function, anuria) Inhalation: Harmful if inhaled. Can cause respiratory tract irritation and sudden headaches, nausea, and

Section 12: 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 less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Toxic Liquid, Organic, n.o.s (Glutaraldehyde solution) UNNA: 2810 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: Glutaraldehyde Florida: Glutaraldehyde Massachusetts RTK: Glutaraldehyde New Jersey: Glutaraldehyde California Director's list of Hazardous Substances: Glutaraldehyde TSCA 8(b) inventory: Glutaraldehyde; Water TSCA 8(a) PAIR: Glutaraldehyde TSCA 8(d) H and S data reporting: Glutaraldehyde: 9/30/91 to 9/30/01

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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