




Section 1: Product & Company Information

Product Name: T-352 Glutaraldehyde
Chemical Family: Aqueous mixture of glutaraldehyde
Product Use: Drilling Mud Additive

Workplace Hazardous Materials Information Systems Data (WHMIS):

	Class ID	Class	Workplace Hazard
	D-1-B	Materials Causing Immediate/Serious Toxic Effects - Toxic	Immediate serious toxic effects
	D-2-B	Materials Causing Other Toxic Effects - Toxic	Skin and eye irritant
	E	Corrosive Materials	Corrosive

Manufacturer Name: HiTech Fluid Systems
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MSDS Revision Date: June 1, 2008
Supersedes: June 23, 2005
Prepared By: HiTech Fluid Systems
Preparer's Phone: (403)547-2906

Section 2: Composition/Information on Ingredients

Chemical Name	Concentration	CAS#
Glutaraldehyde	20-60	000111-30-8

Section 3: Hazards Identification

Emergency Overview: NOTE TO PHYSICIANS: Immediate consultation with the local Poison Control Centre should be initiated. Severe local and systemic reactions can occur, sometimes delayed up to 72 hours. Due to the severely irritating nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract, with hemorrhage and fluid loss. Perforation of the esophagus or stomach may also occur, leading to mediastinitis or peritonitis and the resultant complications.

Routes of Entry:

Skin Contact:	Yes
Skin Absorption:	Yes
Eye Contact:	No
Inhalation:	Yes
Ingestion:	Yes

Potential Health Effects:

Skin:	Corrosive! Brief contact causes irritation. Chemical burns can occur if not promptly removed. Toxic effects may be delayed. May cause staining. Prolonged or widespread skin contact may result in the absorption of potentially harmful amounts of material and/or dermatitis.
Eye:	Extremely corrosive! May cause corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur.
Inhalation:	Corrosive! May cause severe irritation of the nose, throat, and respiratory tract. Airborne concentrations of dust, mist, or spray may cause damage to the lung tissue, which could produce chemical pneumonia. Can cause injury to entire respiratory tract.
Ingestion:	This substance is TOXIC if swallowed! Corrosive! This product causes severe burning and pain in the mouth, throat, and abdomen. Vomiting, diarrhea, and perforation of the esophagus and stomach lining may occur. Severe scarring of the throat may occur. May result in death.

Section 4: First Aid Measures

Eye Contact:	Flush eyes with water for at least 30 minutes. Hold eyelids open while flushing. Seek medical attention. Do not transport patient until recommended flushing period is completed, unless flushing can be continued during transport.
Skin Contact:	Flush with water for at least 20 minutes. If irritation persists, repeat flushing. If adverse symptoms develop, seek medical attention.
Inhalation:	Remove patient to fresh air. If breathing has stopped, administer artificial respiration. If breathing has stopped AND there is no pulse, administer CPR. Seek immediate medical attention. Oxygen may be beneficial, if administered by trained personnel.
Ingestion:	If conscious, give 2 to 4 glasses of milk or water to drink. DO NOT induce vomiting. Seek medical attention. Do not give anything by mouth to an unconscious or convulsing person. If spontaneous vomiting occurs, have patient lean forward with head down to avoid aspirating on vomitus. Rinse mouth and administer more milk or water. Mucosal injury following ingestion of this corrosive material may contraindicate the induction of vomiting in the treatment of possible intoxication. Similarly, if gastric lavage is performed, intubation should be done with great care. This product contains materials that may cause severe pneumonitis if aspirated.

Other First Aid: NOTE TO PHYSICIANS: Immediate consultation with the local Poison Control Centre should be initiated. Severe local and systemic reactions can occur, sometimes delayed up to 72 hours. Due to the severely irritating nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract, with hemorrhage and fluid loss. Perforation of the esophagus or stomach may also occur, leading to mediastinitis or peritonitis and the resultant complications.

Section 5: Fire Fighting Measures

Conditions Of Flammability:

Extinguishing Media: Dry chemical, CO₂, foam, water fog

Flashpoint: Does not flash.

Upper Flammable Limit: Not Applicable

Lower Flammable Limit: Not Applicable

Autoignition Temperature: Not Applicable

Protective Equipment: Firefighters must wear appropriate breathing apparatus and clothing.

Sensitivity To Impact or Static Discharge: None known.

Hazardous Combustion Products: Thermal decomposition products are toxic and may include oxides of carbon and irritating gases.

Fire Comment:

Section 6: Accidental Release Measures

Personnel Precautions: Use proper personal protective equipment as listed in section 8.

Spill Cleanup Measures: Use appropriate safety equipment. Soak up spill with absorbent material and put in appropriate containers for disposal. Do not allow to enter waterways. Ventilate enclosed places. May cause a slip hazard.

Section 7: Handling & Storage

Handling: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Containers exposed to heat may have pressure build-up. Cool and vent containers before opening.

Storage: Store in a cool, dry, well ventilated place. Keep container tightly closed and away from incompatible materials, such as organic chemicals, strong bases, metal powders, carbides, sulfides, and any readily oxidizable material. Do not expose sealed containers to temperatures above 40°C Do not store with food or feed.

Section 8: Exposure Controls, Personal Protection, Exposure Guidelines

Engineering Controls: Provide mechanical ventilation to prevent dust concentrations, and to reduce potential exposure. Ventilate low lying areas where dense vapours may collect.

Personal Protective Equipment: Chemical-resistant clothing is recommended, including gloves, apron, and goggles. Gloves and protective clothing should be made of polyethylene, butyl rubber, or nitrile rubber, and should be impervious under conditions of use. Contact lenses should not be worn when working with this material.

Respiratory Protection: A NIOSH/MSHA-approved full facepiece air-purifying respirator equipped with acid gas, dust, mist, fume cartridges, for concentrations up to 0.5 ppm glutaraldehyde or 1000 ppm organic vapours, is recommended.

Exposure Limits: Glutaraldehyde LD₅₀ Oral Rat = 134 mg/kg, LD₅₀ Dermal Rat = 560 micrograms/kg, LC₅₀ Inhalation Rat = 480 mg/kg (4 hr)

Chemical Name	ACGIH TLV-TWA	OSHA PEL-TWA
Glutaraldehyde	0.05 ppm (ceiling)	Not Available

Section 9: Physical & Chemical Properties

Physical State:	Liquid
Odour And Appearance:	Clear colourless; sweet odour
Odour Threshold:	Not Available
Boiling Point:	100°C
Evaporation Rate:	1.0 (butyl acetate = 1.0)
Melting Point:	-35°C
Freezing Point:	Not Available
Specific Gravity:	Not Available
Solubility in Water:	Soluble in water.
Vapour Density:	Not Available
Vapour Pressure:	Not Available
pH:	3.1-4.5 (neat)
Flash Point:	Does not flash.
Volatility (% by volume):	Not Available
Coefficient of Water to Oil distribution:	Not Available

Section 10: Stability & Reactivity

Chemical Stability:	Yes
Hazardous Polymerization:	Will not occur.
Conditions Of Chemical Instability:	Not Applicable
Incompatible Substances:	Strong oxidizers, reducing agents, lewis or mineral acids, strong acids, strong alkalies, amines
Special Decomposition Products:	Thermal decomposition products are toxic and may include CO _x and irritating gases.

Section 11: Toxicological Information

Chemical Name	LD ₅₀ (Oral Rat)	LD ₅₀ (Dermal Rabbit)	LC ₅₀ (Inhalation Rat)
Glutaraldehyde	134 mg/kg	560 micrograms/kg	480 mg/kg

Effects Of Acute Exposure:	Corrosive and toxic. May cause chemical pneumonitis, pulmonary edema, staining, skin sensitization, or other allergic reactions. Shock, coma, and death. Symptoms of pulmonary edema, such as shortness of breath, may not appear until several hours after exposure and are aggravated by physical exertion. Swallowing may lead to ulceration and inflammation of the upper alimentary tract with hemorrhage and fluid loss. Also perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and the resultant complications.
Effects Of Chronic Exposure:	Repeated and/or prolonged exposure may cause productive coughing, running nose, bronchopneumonia, pulmonary edema (fluid build-up in lungs), and reduction of pulmonary function.
General Irritancy Of Product:	Severe
Sensitization:	May cause skin sensitization or other allergic reactions.
Carcinogenicity:	Not considered to be a carcinogen by IARC, NTP, and OSHA.
Reproductive Toxicity:	None known.
Teratogenicity:	Not a known teratogen.
Embryotoxicity:	Not Available
Mutagenicity:	Not a known mutagen.
Synergistic Products:	None known.

Section 12: Ecological Information

Ecotoxicity:	Not Available
Environmental Fate:	Not Available

Section 13: Disposal Considerations




Waste Disposal: All waste should be disposed of according to federal, provincial and local regulations. Containers should NOT be re-used. Containers should be disposed of in accordance with government regulations.

Section 14: Transport Information

TDG Classification: 8
DOT UN Number: UN 3265
Shipping Notes: As per TDG

Section 15: Regulatory Information

Workplace Hazardous Materials Information Systems Data (WHMIS):

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This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16: Additional Information

MSDS Revision Date: June 1, 2008

MSDS Revision Notes:

MSDS Author: HiTech Fluid Systems

Disclaimer: This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.