Richest Group
No. 999, Jiangyue Rd, Minhang, Shanghai 201114, China
Tel: 0086 21 5017 5386
E-mail: inquiry@richest-group.com
Web: www.richest-group.com

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Glutaraldehyde 50% Solution	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product name	Glutaraldehyde 50% Solution
Synonyms	glutaraldehyde; Pentanedial; 111-30-8; Glutaral; Glutaric dialdehyde; Sonacide
CAS No.	111-30-8
EC No.	203-856-5
Molecular formula	C5H8O2
Molecular weight	100.12 g/mol
Relevant identified uses	Industrial-use glutaraldehyde solution; Biocide/disinfectant application copy must remain consistent with the industrial-use SDS; no pharmaceutical or household claims.
Uses advised against	No specific uses advised against were identified in the reviewed sources.
Company	Richest Group
Address	No. 999, Jiangyue Rd, Minhang, Shanghai 201114, China
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Website	www.richest-group.com
Emergency telephone number	0086 21 5017 5386

SECTION 2: Hazards identification

GHS Classification	Corrosive to Metals 1; Acute Toxicity 3 (oral & inhalation); Acute Toxicity 4 (dermal); Skin Corrosion/Irritation 1B; Respiratory Sensitization 1; Skin Sensitization 1; STOT SE 3 (respiratory irritation); Aquatic Acute 1; Aquatic Chronic 2
Pictogram(s)	GHS05□GHS06□GHS08□GHS09
Signal word	Danger
Hazard statement(s)	H290 May be corrosive to metals; H301+H331; H312 Harmful in contact with skin; H314 Causes severe skin burns and eye damage; H317 May cause an allergic skin reaction; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled; H335 May cause respiratory irritation; H400 Very toxic to aquatic life; H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	P271; P280; P260; P273; P284; P264; P272; P310; P305+P351+P338; P304+P340; P303+P361+P353; P301+P330+P331; P362+P364; P391; P403+P233; P405; P501
Other hazards	Glutaraldehyde is a colorless, oily liquid with a sharp, pungent odor. Glutaraldehyde is used for industrial, laboratory, agricultural, medical, and some household purposes, primarily for disinfecting and sterilization of surfaces and equipment.

SECTION 3: Composition/information on ingredients

Component	Glutaraldehyde 50% Solution
CAS No.	111-30-8

SECTION 3: Composition/information on ingredients

EC No.	203-856-5
Classification	Corrosive to Metals 1; Acute Toxicity 3 (oral & inhalation); Acute Toxicity 4 (dermal); Skin Corrosion/Irritation 1B; Respiratory Sensitization 1; Skin Sensitization 1; STOT SE 3 (respiratory irritation); Aquatic Acute 1; Aquatic Chronic 2
Concentration	Glutaraldehyde ≥50.0 wt%

SECTION 4: First-aid measures

If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere.
In case of skin contact	Water flush immediately - If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING.
Most important symptoms and effects	No data available
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures

Suitable extinguishing media	Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	No data available
Special hazards arising from the chemical	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)
Advice for firefighters	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

SECTION 6: Accidental release measures

Personal precautions and emergency procedures	Avoid contact with the material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Environmental precautions	Prevent uncontrolled release to drains, soil and watercourses.
Methods for containment and cleaning up	Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb liquid in sand or inert absorbent. Wash away remainder with plenty of water. Store and dispose of according to local regulations.

SECTION 7: Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid formation or inhalation of dust, mist or vapour as applicable. Wash thoroughly after handling.
Conditions for safe storage, including incompatibilities	Keep tightly closed in a cool, well-ventilated place; protect from direct sunlight and freezing; ≤25 °C; store locked up; SDS storage duration 12 months

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	0.21 mg/m³
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	Provide adequate ventilation. Eyewash facilities should be available where contact is possible.
Eye/face protection	Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]:
Skin and body protection	Excerpt from ERG Guide 153 [Substances - Toxic and/or Corrosive (Combustible)]:
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	No specific thermal hazards were identified in the reviewed sources; see Sections 5 and 10.

SECTION 9: Physical and chemical properties

Physical state	Colorless to light yellow oily transparent liquid
Colour	Colorless liquid
Odour	Pungent odor
Melting point / freezing point	-20 °C
Boiling point / boiling range	>101.5 °C
Flammability	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)
Explosion / flammability limits	No data available
Flash point	>95 °C c.c.
Auto-ignition temperature	225 °C
Decomposition temperature	187-189 °C
pH	3.0-5.0
Viscosity	12.75 mm²/s at 25 °C
Solubility	Easily soluble in cold water
Partition coefficient n-octanol/water	log Kow = -0.33
Vapour pressure	20 hPa at 20.1 °C; 28 hPa at 25.1 °C; 104.68 hPa at 50 °C
Density and/or relative density	1.125-1.136 at 20 °C
Relative vapour density	3.4 (Air = 1)
Particle characteristics	Not applicable (liquid).
Refractive index	Index of refraction: 1.433 at 25 °C

SECTION 10: Stability and reactivity

Reactivity	Polymerizes in the presence of water. (NTP, 1992)
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	GLUTARALDEHYDE may discolor on exposure to air. It polymerizes on heating. This chemical is incompatible with strong oxidizing agents. It polymerizes in the presence of water. (NTP, 1992)
Conditions to avoid	See Chemical Dangers.
Incompatible materials	Incompatible materials: Strong bases, strong oxidizing agents, strong acids.; Strong oxidizers, strong bases [Note: Alkaline solutions of glutaraldehyde (i.e., activated glutaraldehyde) react with alcohol, ketones, amines, hydrazines and proteins].
Hazardous decomposition products	187-189 °C

SECTION 11: Toxicological information

Skin corrosion irritation	GHS classification: Skin Corrosion/Irritation 1B
Sensitization	GHS classification: Skin Sensitization 1
Acute toxicity	LD50 Rat oral 134 mg/kg; LD50 Rat male oral 246mg/kg; LD50 Rat female oral 154 mg/kg; LD50 Rat male oral 315 mg/kg
Toxicological summary	IDENTIFICATION AND USE: Glutaraldehyde is a colorless liquid. It is registered for pesticide use in the U.S. but approved pesticide uses may change periodically and so federal, state and local authorities must be consulted for currently approved uses. It is used as algaecide, bacteriocide and fungicide. Glutaraldehyde is used as a tissue fixative in histology and electron and light microscopy, generally as a 1.5-6% aqueous solution. Glutaraldehyde is used, generally in conjunction with wetting agents, to control viruses and other micro-organisms in fish farming.
Health effects	Contact with liquid causes severe irritation of eyes and irritation of skin. Chemical readily penetrates skin in harmful amounts. Ingestion causes irritation of mouth and stomach. (USCG, 1999)

SECTION 12: Ecological information

Ecotoxicity	LC50; Species: Anas platyrhynchos (Mallard duck) dietary > 5125 ppm for 8 days /50% glutaraldehyde/; LC50; Species: Anas platyrhynchos (Mallard duck) dietary >10,000 ppm for 8 days /50% glutaraldehyde/
Persistence degradability	AEROBIC: Glutaraldehyde, present at 100 mg/L, reached 59% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). Using OECD Guideline 301C (Ready biodegradability: Modified MITI Test (I)), glutaraldehyde reached 74% of its theoretical BOD in 28 days and 80% DOC in 15 days with classified the compound as readily biodegradable(2).
Bioaccumulative potential	An estimated BCF of 3 was calculated for glutaraldehyde(SRC), using a log Kow of -0.33(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).
Mobility in soil	Aqueous solutions of [14C] glutaraldehyde in 0.01 M calcium chloride were prepared at concentrations of 0.51, 1.0, 2.5, 5.0, and 10.3 g/L and used to determine the adsorption/desorption characteristics of glutaraldehyde in various soil types according to FIFRA 163-1 guidelines(1).
Other adverse effects	The rate constant for the vapor-phase reaction of glutaraldehyde with photochemically-produced hydroxyl radicals has been measured as 2.52X10-11 cu cm/molecule-sec at 25 °C(1). This corresponds to an atmospheric half-life of about 15 hours at an atmospheric concentration of 5X10+5 hydroxyl radicals per cu cm(2).

SECTION 12: Ecological information

Environmental fate	TERRESTRIAL FATE: Based on a classification scheme(1), measured Koc values ranging from 5.1 to 500(2,3) indicate that glutaraldehyde is expected to have very high to moderate mobility in soil(SRC). Volatilization of glutaraldehyde from moist soil surfaces is not expected to be an important fate process(SRC) given a Henry's Law constant of 3.3X10-8 atm-cu m/mole(2).

SECTION 13: Disposal considerations

Product disposal methods	Contaminated packaging: Dispose of as unused product.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	2922
UN Proper Shipping Name	CORROSIVE LIQUID, TOXIC, N.O.S. (GLUTARALDEHYDE)
Transport hazard class(es)	8 (6.1)
Packing group	II
Environmental hazards / Marine pollutant	Yes; IMDG Marine pollutant: P; EmS F-A, S-B
Special precautions for user	Keep containers closed and secured during transport. Follow applicable dangerous goods regulations.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	Emergency Response Planning Guidlines (ERPGs) for glutaraldehyde:[Table#2528]

SECTION 16: Other information

Full text of H-Statements	H290 May be corrosive to metals; H301+H331; H312 Harmful in contact with skin; H314 Causes severe skin burns and eye damage; H317 May cause an allergic skin reaction; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled; H335 May cause respiratory irritation; H400 Very toxic to aquatic life; H411 Toxic to aquatic life with long lasting effects
Revision date	2026-11-16
Version	1.0
References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: PubChem Glutaraldehyde (CID 3485): https://pubchem.ncbi.nlm.nih.gov/compound/3485
Abbreviations	CAS: Chemical Abstracts Service; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; SDS: Safety Data Sheet.
Disclaimer	The information in this SDS applies to the specified product and is provided in good faith based on information available to Richest Group at the date of issue. It describes health, safety and environmental requirements and does not constitute a guarantee of product properties. Users must assess suitability and comply with applicable regulations.