SAFETY DATA SHEET

Creation Date 19-Apr-2010 **Revision Date** 18-Dec-2025 **Revision Number** 11

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

1. Identification

Product Name **Glutaric dialdehyde, 50 wt.% solution in water**

Cat No. : **BP2547-1; G151-1**

Synonyms Glutaraldehyde; Pentanedial (Certified/BioReagent)

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 2
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1

Label Elements

Signal Word
Danger

Hazard Statements

Toxic if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Fatal if inhaled
May cause allergy or asthma symptoms or breathing difficulties if inhaled



Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Response
Immediately call a POISON CENTER or doctor
Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
Rinse mouth
Do NOT induce vomiting
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life
Toxic to aquatic life with long lasting effects
Corrosive to the respiratory tract

Hazards classified under paragraph (d)(1)(ii) of 1910.1200
No information available

3. Composition/information on Ingredients

Component	CAS No	Weight %
Glutaraldehyde	111-30-8	50

4. First-aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms and effects	Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	CO_2, dry chemical, dry sand, alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	CC (closed cup)
Autoignition Temperature	395 °C / 743 °F

Explosion Limits

Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO_2).
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
4	1	1	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental Precautions Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Storage. KEEP REFRIGERATED or in a very cool place to retard polymerisation. Corrosives area. Keep at temperatures below 25°C. Keep refrigerated. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Alcohols. Amines.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Glutaraldehyde	Ceiling: 0.05 ppm	(Vacated) Ceiling: 0.2 ppm (Vacated) Ceiling: 0.8 mg/m³	Ceiling: 0.2 ppm Ceiling: 0.8 mg/m³	Ceiling: 0.05 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Physical State Liquid
Color No information available
Odor pungent
Odor Threshold No information available

Property	Values	Remarks • Method
Melting Point/Range	-33 °C / -27.4 °F	
Softening Point	No data available	
Boiling Point/Range	101.5 °C / 214.7 °F	@ 740 mmHg
Flash Point	No information available	**Method -** CC (closed cup)
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	**Lower** 1.5 vol% **Upper** 50 vol%	
Autoignition Temperature	395 °C / 743 °F	
Decomposition Temperature	110°C	
pH	3.2-4.2	
Viscosity	20 mPa.s (50°C)	
Water Solubility	Soluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Glutaraldehyde	-0.36	
Vapor Pressure	15 mmHg @ 20 °C	
Density / Specific Gravity	1.130	
Bulk Density	Not applicable	Liquid
Vapor Density	1.05	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

Other Information

Evaporation Rate 0.93 (Butyl Acetate = 1.0)

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Temperatures above 50°C.

Incompatible Materials Strong oxidizing agents, Strong acids, Strong bases, Alcohols, Amines

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation Toxic by inhalation. Causes burns. May cause allergic respiratory reaction.

Ingestion Toxic if swallowed. Causes burns. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Eyes Causes burns.

Skin Causes burns. May be harmful in contact with skin. May produce an allergic reaction.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glutaraldehyde	77 mg/kg (Rat)	>2500 mg/kg (Rat)	0.28 - 0.39 mg/L (Rat) 4 h

Toxicologically Synergistic No information available

Products

(b) skin corrosion/irritation; Category 1 B
Test method OECD 404
Test species rabbit
Observational endpoint Corrosive

(c) serious eye damage/irritation; Category 1
Test method Draize test
Test species rabbit
Observation end point CAUSES (SEVERE) EYE BURNS, irreversible

(d) respiratory or skin sensitization;
Respiratory Category 1
Skin Category 1

Component	Test method	Test species	Study result
Glutaraldehyde 111-30-8 (50)	Local Lymph Node Assay	mouse	Sensitization

May cause sensitization by skin contact

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Glutaraldehyde 111-30-8 (50)	in vitro OECD Test Guideline 473 Mammalian --- in vivo OECD Test Guideline 474	in vitro Mammalian --- in vivo mouse Animal germ cell	Positive --- negative

(f) carcinogenicity; Based on available data, the classification criteria are not met

Component	Test method	Test species / Duration	Study result
Glutaraldehyde 111-30-8 (50)	OECD Test Guideline 451	Rat / 2 years	negative NOAEL = 100 ppm

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Glutaraldehyde	111-30-8	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; Based on available data, the classification criteria are not met

Component	Test method	Test species / Duration	Study result
Glutaraldehyde 111-30-8 (50)	OECD Test Guideline 414	Rat	negative

(h) STOT-single exposure; Category 3

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and delayed Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

12. Ecological information

Ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Glutaraldehyde	EC50: = 0.84 mg/L, 96h (Desmodesmus subspicatus) EC50: = 0.61 mg/L, 72h (Desmodesmus subspicatus)	LC50: 7.8 - 22 mg/L, 96h static (Lepomis macrochirus) LC50: 2.6 - 4.8 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 7.8 - 13 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 5.4 mg/L, 96h static (Pimephales promelas)	EC50 = 13.3 mg/L 17 h EC50 = 76.0 mg/L 5 min	EC50: 0.56 - 1.0 mg/L, 48h Static (Daphnia magna) EC50: = 14 mg/L, 48h (Daphnia magna)

Persistence and Degradability Miscible with water Persistence is unlikely based on information available. Soluble in water

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Glutaraldehyde	-0.36

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

- **UN-No** UN2922
- **Proper Shipping Name** CORROSIVE LIQUIDS, TOXIC, N.O.S.
- **Technical Shipping Name** Glutaraldehyde solution
- **Hazard Class** 8
- **Subsidiary Hazard Class** 6.1
- **Packing Group** II

TDG

- **UN-No** UN2922
- **Proper Shipping Name** Corrosive liquid, toxic, n.o.s.
- **Technical Shipping Name** Glutaraldehyde solution
- **Hazard Class** 8
- **Subsidiary Hazard Class** 6.1
- **Packing Group** II

IATA

- **UN-No** UN2922
- **Proper Shipping Name** Corrosive liquid, toxic, n.o.s.

Technical Shipping Name	Glutaraldehyde solution
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	II

IMDG/IMO

UN-No	UN2922
Proper Shipping Name	Corrosive liquid, toxic, n.o.s.
Technical Shipping Name	Glutaraldehyde solution
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	II

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Glutaraldehyde	111-30-8	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories
China, X = listed, Australia, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (KECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Glutaraldehyde	111-30-8	X	-	203-856-5	X	X	X	X	X	KE-27969

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Glutaraldehyde	X	X	X	-	X

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Glutaraldehyde	111-30-8	-	Use restricted. See entry 75. (see link for restriction details)	SVHC Candidate list - 203-856-5 - Respiratory sensitising properties (Article 57f - human health)

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links
https://echa.europa.eu/substances-restricted-under-reach
https://echa.europa.eu/candidate-list-table

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Glutaraldehyde	111-30-8	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities	Seveso III Directive (2012/18/EC) - Qualifying Quantities	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)

		for Major Accident Notification	for Safety Report Requirements		
Glutaraldehyde	111-30-8	Not applicable	Not applicable	Not applicable	Not applicable

16. Other Information

Prepared By
Product stewardship (Regulatory Affairs)
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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS