

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



GLUTARALDEHYDE 50%

Version 2.0 Revision Date: 09/05/2025 SDS Number: 203000021865 Date of last issue: 10/16/2024
Country / Language: US / EN

SECTION 1. IDENTIFICATION

Product name : GLUTARALDEHYDE 50%

Product code : 00000000062633986

Manufacturer or supplier's details

Company : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, Pennsylvania 15275-1112

Responsible Department : (800) LANXESS
(412) 809-1000
lanxesshes@lanxess.com

Emergency telephone : CHEMTREC (800) 424-9300 or
(703) 527-3887 (Outside U.S.A) and mention CCN12916.
Lanxess Emergency Phone (800) 410-3063.

Recommended use of the chemical and restrictions on use

Recommended use : crosslinker
Industrial use

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Acute toxicity (Oral) : Category 3
Acute toxicity (Inhalation) : Category 2
Skin corrosion : Sub-category 1B
Serious eye damage : Category 1
Respiratory sensitization : Category 1
Skin sensitization : Sub-category 1A

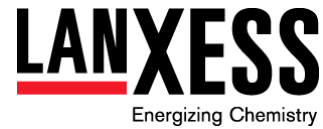
Other hazards

None known.

GHS label elements

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Hazard pictograms	:	
Signal Word	:	Danger
Hazard Statements	:	H301 Toxic if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H330 Fatal if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Supplemental Hazard Statements	:	Corrosive to the respiratory tract.
Precautionary Statements	:	Prevention: P260 Do not breathe mist or vapors. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing must not be allowed out of the workplace. P280 Wear protective gloves, protective clothing, eye protection and face protection. P284 Wear respiratory protection. Response: P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor. P362 + P364 Take off contaminated clothing and wash it before reuse. Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

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Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : glutaral
CAS-No. : 111-30-8

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)
glutaral	111-30-8*	50

* Indicates that the identifier is a CAS No.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

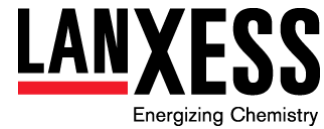
General advice : First Aid responders should pay attention to self-protection and use the recommended protective clothing
Move out of dangerous area.
Get medical attention.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Get medical attention immediately.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and get medical attention immediately.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
Remove to fresh air immediately. Get medical attention immediately.
Maintain open airway.
Loosen tight clothing such as a collar, tie, belt or waistband.
The exposed person may need to be kept under medical surveillance for 48 hours.
In the event of any complaints or symptoms, avoid further exposure.

In case of skin contact : Get medical attention immediately.
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Continue to rinse for 30 minutes.

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- Chemical burns must be treated promptly by a physician.
Wash contaminated clothing before reuse.
- In case of eye contact : Get medical attention immediately.
In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Remove contact lenses, if present and easy to do. Continue rinsing.
Chemical burns must be treated promptly by a physician.
- If swallowed : Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately.
Never give anything by mouth to an unconscious person.
Maintain open airway.

Most important symptoms and effects, both acute and delayed

- Symptoms : Acute overexposure to this product may cause dizziness, headache, drowsiness, malaise, abdominal pain.
Eye: Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.
Skin: Reddening, burning, and possible permanent damage.
Skin: Causes irritation with symptoms of reddening, itching, and swelling.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.
- Effects : Toxic if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
Fatal if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Causes severe burns.
Corrosive to the respiratory tract.
- Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).
- Notes to physician : Maintain adequate ventilation and oxygenation of the patient.
May cause respiratory sensitization or asthma-like symptoms.
Bronchodilators, expectorants and antitussives may be of help.

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Glutaraldehyde may transiently worsen reversible airways obstruction including asthma or reactive airways disease. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination.

Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage.

Exposure to vapors may result in skin sensitization. In sensitized individuals, re-exposure to very small amounts of vapor, mist, or liquid may cause a severe allergic skin reaction. There is no specific antidote available. Treat symptomatically.

Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

Excessive exposure may aggravate pre-existing lung disease. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : This material will not burn until the water has evaporated. Residue can burn.
- Hazardous combustion products : Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to:
- Carbon dioxide (CO₂)
 - Carbon monoxide
- Further information : Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water

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fog, carbon dioxide, dry chemical or foam.
Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.
Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

Special protective equipment for fire-fighters : Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).
Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.
For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate area.
Keep upwind of spill.
Ventilate area of leak or spill.
Only trained and properly protected personnel must be involved in clean-up operations.
Put on appropriate personal protection equipment.
Refer to section 7, Handling, for additional precautionary measures.
For personal protection see section 8.

Environmental precautions : Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up : Avoid making contact with spilled material, glutaraldehyde will be absorbed by most shoes. Always wear the correct protective equipment, consisting of splashproof monogoggles, or both safety glasses with side shields and a wraparound full-face shield, appropriate gloves and protective clothing. A self-contained breathing apparatus or respirator and absorbents may be necessary, depending on the size of the spill and the adequacy of ventilation.
Small spill:
Wear the correct protective equipment and cover the liquid with absorbent material. Collect and seal the material and the dirt that has absorbed the spilled material in polyethylene bags and place in a drum for transit to an approved disposal site. Rinse away the remaining spilled material with water to reduce odor, and discharge the rinsate into a municipal or

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industrial sewer.

Large spills:

In case of nasal and respiratory irritation, vacate the room immediately. Personnel cleaning up should be trained and equipped with a self-contained breathing apparatus, or an officially approved or certified full-face respirator equipped with an organic vapor cartridge, gloves, and clothing impervious to glutaraldehyde, including rubber boots or shoe protection. Deactivate with sodium bisulfite (2-3 parts (by weight) per part of active substance glutaraldehyde), collect the neutralized liquid and place in a drum for transit to an approved disposal site.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not spray or aerosolize the undiluted form of the product. Full personal protective equipment (including skin covering and full-face SCBA respirator) is required for dilutions or mixtures of the product used in a spray application.

Do not get in eyes, on skin, or on clothing.

Do not swallow.

Avoid prolonged contact.

Do not breathe vapors or spray mist.

Keep container tightly closed.

Use with adequate ventilation.

Wear goggles, protective clothing and butyl or nitrile gloves.

Wash thoroughly with soap and water after handling.

Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage : Do not store in or use iron or steel containers.

Do not store in:

Aluminum

copper

Further information on storage stability : Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
glutaral	111-30-8	C	0.05 ppm	ACGIH

Engineering measures : Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. Local exhaust ventilation may be necessary for some opera-

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tions.

Personal protective equipment

Respiratory protection : Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For operations such as spraying/misting and other conditions such as emergencies where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber - IIR. Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection : Tightly fitting safety goggles
If exposure causes eye discomfort, use a full-face respirator.

Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Use chemical protective clothing resistant to this material, when there is any possibility of skin contact.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

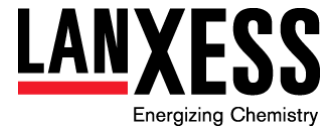
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Physical state : liquid

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Color	:	clear
Odor	:	fruity
Odor Threshold	:	< 1 ppb
pH	:	3.1 - 4.5 (68 °F / 20 °C) Concentration: 100 % Method: ASTM E 70
Melting point/ range	:	Not applicable to liquids
Freezing point	:	-0.40 °F / -18 °C Method: OECD Test Guideline 102
Boiling point/boiling range	:	213.3 °F / 100.7 °C Method: OECD Test Guideline 103
Flash point	:	No data available
Evaporation rate	:	1.0
Flammability (liquids)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	0.399 hPa (68 °F / 20 °C) Method: OECD Test Guideline 104 Active ingredient
Relative vapor density	:	1.1 (Air = 1.0)
Relative density	:	1.129 (68 °F / 20 °C) Method: OECD Test Guideline 109
Density	:	1.13 g/cm ³ (68 °F / 20 °C) Method: OECD Test Guideline 109
Solubility(ies)	:	
Water solubility	:	completely soluble
Solubility in other solvents	:	No data available

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Partition coefficient: n-octanol/water	:	log Pow: -0.333 Method: measured
Ignition temperature	:	725 °F / 385 °C (1,004 hPa) Method: 92/69/EEC A15
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	15.4 cps (77 °F / 25 °C) (Brookfield Viscosity - @ 100 rpm, #0 spindle)
Viscosity, kinematic	:	20.2 mm ² /s (68 °F / 20 °C)
Explosive properties	:	Not explosive Method: EEC A14
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	100.12 g/mol (based on major component)
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	Thermally stable at typical use temperatures.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Active ingredient decomposes at elevated temperatures.
Incompatible materials	:	Avoid contact with the following: Amines Ammonia Strong acids and strong bases Strong oxidizing agents Avoid contact with metals such as: Aluminum Iron Copper Mild steel
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials.

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Toxic if swallowed.
Fatal if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 154 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, female): 0.28 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

LC50 (Rat, male): 0.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

Components:

glutaral:

Acute oral toxicity : LD50 (Rat, female): 77 mg/kg
Method: equivalent or similar to OECD Guideline 401
GLP: Yes
Remarks: Active ingredient

LD50 (Rat, male): 123 mg/kg
Method: equivalent or similar to OECD Guideline 401
GLP: Yes
Remarks: Active ingredient

Acute inhalation toxicity : LC50 (Rat, female): 0.28 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

LC50 (Rat, male): 0.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

Assessment: Corrosive to the respiratory tract.
Remarks: Expert judgment

Assessment: Corrosive to the respiratory tract.

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Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: Yes
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes severe burns.

Components:

glutaral:

Species : Rabbit
Method : equivalent or similar to OECD Guideline 404
Result : Corrosive after 3 minutes to 1 hour of exposure
GLP : No information available.

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

glutaral:

Species : Rabbit
Result : Irreversible effects on the eye
Method : Draize Test
GLP : No

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

glutaral:

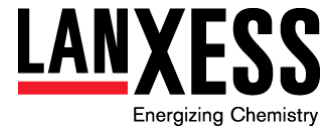
Routes of exposure : Inhalation
Species : Human
Result : May cause sensitization by inhalation.

Test Type : Open epicutaneous test
Routes of exposure : Skin contact
Species : Guinea pig
Result : May cause sensitization by skin contact.

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : The product is a skin sensitizer, sub-category 1A.

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Germ cell mutagenicity

Not classified due to lack of data.

Components:

glutaral:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: Yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
GLP: Yes

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive
GLP: Yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
GLP: Yes

Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative
GLP: Yes

Test Type: The sex-linked recessive lethal (SLRL) test.
Species: Drosophila melanogaster (vinegar fly) (male)
Result: negative

Carcinogenicity

Not classified due to lack of data.

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Components:

glutaral:

Species : Rat, male and female
Application Route : Oral
Exposure time : 2 Years
Dose : 100 - 500 - 2000 parts per million
NOAEL : 100 ppm
Method : OECD Test Guideline 451
Result : negative
GLP : Yes

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified due to lack of data.

Components:

glutaral:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 100 - 500 - 2000 parts per million
General Toxicity Parent: NOAEL: 500 parts per million
Fertility: NOAEL: 2,000 parts per million
Early Embryonic Development: NOAEL: 500 ppm
Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.
GLP: Yes

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 50 - 250 - 750 parts per million
General Toxicity Maternal: NOEL: 50 ppm
Teratogenicity: NOAEL: 750 ppm
Embryo-fetal toxicity.: NOAEL: 750 ppm
Method: OECD Test Guideline 414
Result: Did not show teratogenic effects in animal experiments.
GLP: Yes

Test Type: Pre-natal
Species: Rabbit, female
Application Route: Oral

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Dose: 5 - 15 - 45 milligram per kilogram
General Toxicity Maternal: NOAEL: 15 mg/kg body weight
Teratogenicity: NOAEL: 45 mg/kg body weight
Embryo-fetal toxicity.: NOAEL: 15 mg/kg body weight
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the off-spring were detected only at high maternally toxic doses
GLP: Yes

STOT-single exposure

Corrosive to the respiratory tract.

Components:

glutaral:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

glutaral:

Species : Rat, male and female
NOAEL : 500 parts per million
LOAEL : 2000 ppm
Application Route : Oral
Exposure time : 90 Days
Number of exposures : daily
Dose : 100 - 500 - 2000 parts per million
Method : OECD Test Guideline 408
GLP : Yes
Remarks : Subchronic toxicity

Species : Rat, male and female
NOAEL : 500 parts per million
LOAEL : 2000 ppm
Application Route : Oral
Exposure time : 12 Months
Number of exposures : daily
Dose : 100 - 500 - 2000 parts per million
Method : OECD Test Guideline 452
GLP : Yes
Remarks : Chronic toxicity

Species : Dog, male and female
NOAEL : 500 parts per million
Application Route : Oral
Exposure time : 12 Months
Number of exposures : daily
Dose : 20 - 100 - 500 parts per million

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Method : OECD Test Guideline 452
GLP : Yes
Remarks : Chronic toxicity

Species : Rat, male and female
NOAEC : >= 1 ppm
Application Route : Inhalation
Test atmosphere : vapor
Exposure time : 90 Days
Number of exposures : 6 hours/day, 5 days/week
Dose : 0,062 - 0,125 - 0,25 - 0,5 - 1 parts per million
Method : OECD Test Guideline 413
GLP : Yes
Remarks : Subchronic toxicity

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

glutaral:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 203
GLP: No
Remarks: Fresh water
nominal concentration

LC50 (Lepomis macrochirus (Bluegill sunfish)): 13 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 203
GLP: No
Remarks: Fresh water
nominal concentration

LC50 (Cyprinodon variegatus (sheepshead minnow)): 39 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: No

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Version 2.0 Revision Date: 09/05/2025 SDS Number: 203000021865 Date of last issue: 10/16/2024
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GLP: No
Remarks: salt water
nominal concentration

LC50 (Cyprinodon variegatus (sheepshead minnow)): 32 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: Yes
Method: OPPTS 850.1075
GLP: Yes
Remarks: salt water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 14.87 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: No
Method: Regulation (EC) No. 440/2008, Annex, C.2
GLP: No
Remarks: Fresh water
nominal concentration

EC50 (Daphnia magna (Water flea)): 14 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: No
Method: EPA-660/3-75-009
GLP: No
Remarks: Fresh water
nominal concentration

EC50 (Acartia tonsa): 3 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: Yes
Method: ISO 14669 and PARCOM method
GLP: Yes
Remarks: salt water
nominal concentration

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 0.6 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: Yes
Method: Regulation (EC) No. 440/2008, Annex, C.3
GLP: Yes
Remarks: Fresh water
nominal concentration

NOEC (Desmodesmus subspicatus (green algae)): 0.025 mg/l
End point: Growth rate
Exposure time: 72 h

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Test Type: static test
Analytical monitoring: Yes
Method: Regulation (EC) No. 440/2008, Annex, C.3
GLP: Yes
Remarks: Fresh water
nominal concentration

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l
End point: Survival test
Exposure time: 97 d
Test Type: flow-through test
Analytical monitoring: Yes
Method: OECD Test Guideline 210
GLP: Yes
Remarks: Fresh water
nominal concentration

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5 mg/l
End point: Reproduction
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: Yes
Method: OECD Test Guideline 221
GLP: Yes
Remarks: Fresh water
nominal concentration

Toxicity to microorganisms : EC20 (activated sludge): 15 mg/l
End point: Respiration inhibition
Exposure time: 30 min
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 209
GLP: Yes

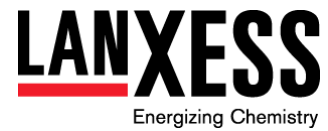
EC50 (activated sludge): 80 mg/l
End point: Respiration inhibition
Exposure time: 30 min
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 209
GLP: Yes

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 170 mg/kg
Exposure time: 14 d
End point: Survival
Method: OECD Test Guideline 207
GLP: Yes

Plant toxicity : EC50: > 1,000 mg/kg
End point: Growth inhibition
Test period: 19 d
Species: Avena sativa (oats)
Method: OECD Test Guideline 208

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GLP: Yes

EC50: > 1,000 mg/kg
End point: Growth inhibition
Test period: 19 d
Species: Vicia sativa
Method: OECD Test Guideline 208
GLP: Yes

Toxicity to terrestrial organisms : LD50 (Anas platyrhynchos (Mallard duck)): 206 mg/kg
Exposure time: 14 d
End point: mortality

LC50 (Anas platyrhynchos (Mallard duck)): > 2,500 ppm
Exposure time: 5 d
End point: mortality

Persistence and degradability

Components:

glutaral:

Biodegradability : Result: rapidly biodegradable
Biodegradation: 90 - 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301A
GLP: Yes

Result: Biodegradable in sea water
Biodegradation: 90 - 100 %
Exposure time: 70 d
Method: OECD Test Guideline 306
GLP: Yes

Concentration: 20 mg/l
Dissolved organic carbon (DOC)
Result: Biodegradable
Biodegradation: 97 %
Exposure time: 73 d
Lag phase: 1 d
Beginning of plateau phase: 2 d
Method: OECD Test Guideline 303A
GLP: Yes

Stability in water : Remarks: Hydrolyzes slowly.

Photodegradation : Sensitizer: OH radicals
Concentration: 500,000 1/cm³
Rate constant: 4.69E-10 cm³/s
Degradation (direct photolysis): 50 % Degradation half life: 8.2 h
Remarks: Structure-activity relationship (SAR)

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Bioaccumulative potential

Components:

glutaral:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Partition coefficient: n-octanol/water : log Pow: -0.36 (73 °F / 23 °C)
pH: 7
Method: Regulation (EC) No. 440/2008, Annex, A.8
GLP: Yes

Mobility in soil

Components:

glutaral:

Distribution among environmental compartments : log Koc: 2.5

Stability in soil : Test Type: aerobic degradation
Soil temperature: 77 °F / 25 °C
Radio label: Yes
Method: measured
GLP: Yes
Remarks: Not expected to adsorb on soil.

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precau-

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tions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 2922
Proper shipping name : Corrosive liquid, toxic, n.o.s.
(GLUTARALDEHYDE)
Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : 8 6.1

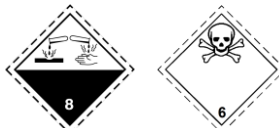


Packing instruction (cargo aircraft) : 855: 30.00 L
Packing instruction (passenger aircraft) : 851: 1.00 L
Environmentally hazardous : yes



IMDG-Code

UN number : UN 2922
UN proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S.
(GLUTARALDEHYDE)
Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : 8 6.1



EmS Code : F-A, S-B
Marine pollutant : yes

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Country / Language: US / EN



Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 2922
Proper shipping name : Corrosive liquids, toxic, n.o.s.
(GLUTARALDEHYDE)
Class : 8
Subsidiary risk : 6.1
Packing group : II
Labels : 8 6.1



ERG Code : 154
Marine pollutant : no

Hazard and Handling Notes

Corrosive.
Toxic.
Environmentally hazardous substance.
Keep away from acids and oxidizing agents
Keep away from foodstuffs, acids and alkalis

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

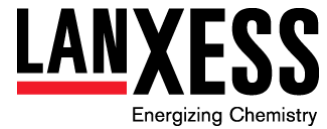
SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Skin corrosion or irritation

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Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

glutaral 111-30-8

Pennsylvania Right To Know

water 7732-18-5
glutaral 111-30-8

California Prop. 65

This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

TSCA inventory

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

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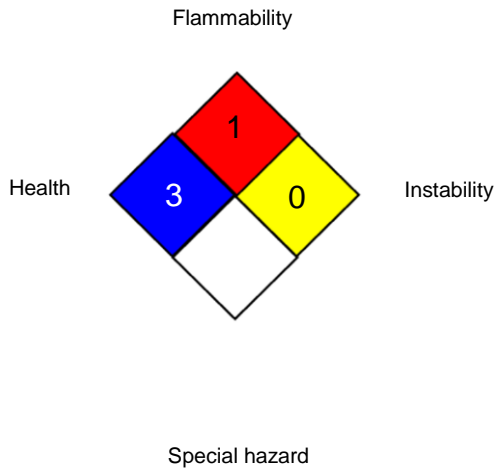
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NFPA 704:



HMIS® IV:

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

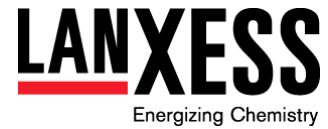
Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / C : Ceiling limit

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Sub-

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stance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 09/05/2025

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any 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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.

US / EN