

## Chemical Safety Data Sheet MSDS / SDS

## Glycidol

Revision Date:2024-12-21 Revision Number:1

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

## Product identifier

Product name : Glycidol  
CBnumber : CB5338946  
CAS : 556-52-5  
EINECS Number : 209-128-3  
Synonyms : Glycidol, Oxiranemethanol

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P201 Obtain special instructions before use.

## Hazard statements

H350 May cause cancer  
H341 Suspected of causing genetic defects  
H335 May cause respiratory irritation  
H331 Toxic if inhaled

H319 Causes serious eye irritation

H315 Causes skin irritation

H242 Heating may cause a fire

#### **Disposal**

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/glycidol>

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: Glycidol
Synonyms	: Glycidol, Oxiranemethanol
CAS	: 556-52-5
EC number	: 209-128-3
MF	: C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>
MW	: 74.08

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### **Indication of any immediate medical attention and special treatment needed**

No data available

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## SECTION 5: Firefighting measures

### **Extinguishing media**

#### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media**

Do NOT use water jet.

**Special hazards arising from the substance or mixture**

Carbon oxides

**Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Further information**

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

**Reference to other sections**

For disposal see section 13.

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## SECTION 7: Handling and storage

**Precautions for safe handling****Advice on safe handling**

Avoid exposure - obtain special instructions before use. **Advice on safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Hygiene measures**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

For precautions see section 2.2.

## Conditions for safe storage, including any incompatibilities

### Storage conditions

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### Storage stability

Recommended storage temperature 2 - 8 °C

Moisture sensitive. Handle and store under inert gas.

### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Exposure controls

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Chloroprene

Minimum layer thickness: 0,6 mm Break through time: 480 min

Material tested: Camapren? (KCL 722 / Aldrich Z677493, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 30 min

Material tested: Dermatril? (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of

the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full- face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### Exposure limits

TLV-TWA 75 mg/m<sup>3</sup> (25 ppm) (ACGIH); 150 mg/m<sup>3</sup> (50 ppm) (OSHA); IDLH 500 ppm (NIOSH).

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	colorless liquid
Odour	odorless
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point: -45 °C at ca.1.013,25 hPa
Initial boiling point and boiling range	61 - 62 °C at 20 hPa - lit.
Flash point	72 °C at ca.1.013,25 hPa
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	1,2 hPa at 25 °C
Vapour density	2,97
Relative density	1,117 g/mL at 25 °C - lit. No data available
Water solubility	completely miscible
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	415 °C at 1.013,25 hPa
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

Relative vapor density

2,97

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## SECTION 10: Stability and reactivity

## Reactivity

No data available

## Chemical stability

Stable under recommended storage conditions.

## Possibility of hazardous reactions

No data available

## Conditions to avoid

Heat, flames and sparks.

## Incompatible materials

Strong acids, Strong bases, Heavy metals, Strong oxidizing agents

## Hazardous decomposition products

In the event of fire: see section 5

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# SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

Acute toxicity estimate Oral - 454,43 mg/kg (Calculation method)

LD50 Oral - Rat - male and female - 463,8 mg/kg Remarks: (ECHA)

Acute toxicity estimate Inhalation - 4 h - 1,2 mg/l (Calculation method)

LC50 Inhalation - Mouse - male - 4 h - 1,37 mg/l Remarks: (ECHA)

LC50 Inhalation - Rat - 4 h - 2,22 mg/l Remarks: (ECHA)

LC50 Inhalation - Rat - 4 h - 1,26 mg/l Remarks: (RTECS)

LC50 Inhalation - Rat - male - 4 h - 2,20 mg/l Remarks: (ECHA)

LC50 Inhalation - Mouse - 4 h - 1,46 mg/l Remarks: (ECHA)

Acute toxicity estimate Dermal - 1.905 mg/kg (Calculation method)

LD50 Dermal - Rabbit - 1.980 mg/kg Remarks: (RTECS)

### Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation Remarks: (RTECS)

(Regulation (EC) No 1272/2008, Annex VI)

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation. - 48 h Remarks: (ECHA)

(Regulation (EC) No 1272/2008, Annex VI)

### Respiratory or skin sensitization

(OECD Test Guideline 429)

### Germ cell mutagenicity

Suspected of causing genetic defects. Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation Result: positive

Remarks: (ECHA)

Test Type: dominant lethal test Species: Rat

Application Route: Inhalation

Result: Positive results were obtained in some in vivo tests. Remarks: (ECHA)

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

May damage fertility.

#### **Specific target organ toxicity - single exposure**

May cause respiratory irritation.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Toxicity**

Acute oral LD50 for mice 431 mg/kg, rats 420 mg/kg (quoted, RTECS, 1985).

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## SECTION 12: Ecological information

### **Toxicity**

No data available

#### **Toxicity to algae**

static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 144,7 mg/l - 96 h

Remarks: (ECHA) ((±)-Glycidol)

### **Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 94 % - Readily biodegradable. Remarks: (ECHA)

### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

#### Incompatibilities

May form explosive mixture with air. Violent reaction with strong oxidizers, nitrates. Decomposes on contact with strong acids, strong bases, water, metal salts, or metals (copper and zinc), causing fire and explosion hazard. Contact with barium, lithium, sodium, magnesium, and titanium may cause polymerization. Attacks some plastics, rubber, and coatings.

#### Waste Disposal

Concentrated waste containing no peroxides: discharge liquid at a controlled rate near a pilot flame. Concentrated waste containing peroxides: perforation of a container of the waste from a safe distance followed by open burning.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### UN number

ADR/RID: 2810 IMDG: 2810 IATA: 2810

### UN proper shipping name

ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. ((±)-Glycidol) IMDG: TOXIC LIQUID, ORGANIC, N.O.S. ((±)-Glycidol)

IATA: Toxic liquid, organic, n.o.s. ((±)-Glycidol)

14.3	Transport hazard class(es) ADR/RID: 6.1 IMDG: 6.1	IATA: 6.1
14.4	Packaging group ADR/RID: III IMDG: III	IATA: III
14.5	Environmental hazards ADR/RID: no IMDG Marine pollutant: no	IATA: no
14.6	Special precautions for user	



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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

## Other Information

Depending on the degree of exposure, periodic medical examination is suggested. Other CAS numbers for the optical active forms are: d-Glycidol CAS 57044-25-4, l-Glycidol CAS 60456-23-7, dl-Glycidol CAS 61915-27-3.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.