ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Glycidol

Revision Date:2025-09-27 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	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P201 Obtain special instructions before use.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Hazard statements

H242 Heating may cause a fire

H315 Causes skin irritation

H319 Causes serious eye irritation

H331 Toxic if inhaled

H335 May cause respiratory irritation

H341 Suspected of causing genetic defects

H350 May cause cancer

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	: C3H6O2
MW	: 74.08

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

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.

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.

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^3 (25 ppm) (ACGIH); 150 mg/m^3 (50 ppm) (OSHA); IDLH 500 ppm (NIOSH).

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

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

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).

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

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 tita nium may cause polymerization. Attacks some plastics, rubber, and coatings.

Waste Disposal

Concentrated waste contain ing 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.

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	

No data available

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

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

EC Inventory:Listed.

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

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

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

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

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

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

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

【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.