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## Material Safety Data Sheet

### Glycidol

#### Section 1: Chemical Product and Company Identification

**Molecular formula:** C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>

**CAS Nr:** 556-52-5

**EINECS:** 209-128-3

**Molecular weight:** 74.08

**Synonyms:**

GLYCEROLGLYCIDE;(+/-)-GLYCIDOL;GLYCIDOL;GLYCEROLGLYCIDE;3-HYDROXY-1,2-EPOXYPROPANE;3-HYDROXYPROPYLENE OXIDE;2,3-EPOXY-1-PROPANOL;2,3-EPOXYPROPAN-1-OL

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#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Glycidol	556-52-5	100

**Toxicological Data on Ingredients:**

#### Section 3: Hazards Identification

**3.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

Self-reactive substances and mixtures (Type C), H242

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 4), H312

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Germ cell mutagenicity (Category 2), H341

Carcinogenicity (Category 1B), H350

Reproductive toxicity (Category 1B), H360F

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008



Pictogram

Signal word Danger

Hazard statement(s)

H242 Heating may cause a fire.

H302 + H312 Harmful if swallowed or in contact with skin

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.

H360F May damage fertility.

Precautionary statement(s)

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.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.

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

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

Supplemental Hazard

Statements none

Restricted to professional users.

### 2.3 Other hazards

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. Rapidly absorbed through skin.

## Section 4: First Aid Measures

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

##### **General advice**

Consult a physician. Show this 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.

#### **4.2 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

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

No data available

### **Section 5: Fire and Explosion Data**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

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

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

No data available

#### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

#### **5.4 Further information**

Use water spray to cool unopened containers.

### **Section 6: Accidental Release Measures**

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

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

Vapours can accumulate in low areas. For personal protection see section 8.

#### **6.2 Environmental precautions**

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

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

#### **6.4 Reference to other sections**

For disposal see section 13.

### **Section 7: Handling and Storage**

### 7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

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

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in original container. 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. Store in cool place. Recommended storage temperature 2 - 8 °C

Moisture sensitive. Handle and store under inert gas.

### 7.3 Specific end use(s)

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

## Section 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

Components with workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

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

#### Personal protective equipment

##### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). 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 EU Directive 89/686/EEC 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](mailto: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 CE 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.

## **Section 9: Physical and Chemical Properties**

### **9.1 Information on basic physical and chemical properties**

- a) Appearance Form: liquid
- b) Odour No data available
- c) Odour Threshold No data available
- d) pH No data available
- e) Melting point/freezing point No data available
- f) Initial boiling point and boiling range 61 - 62 °C at 20 hPa - lit.
- g) Flash point 81 °C - closed cup
- h) Evaporation rate No data available
- i) Flammability (solid, gas) No data available
- j) Upper/lower flammability or explosive limits No data available
- k) Vapour pressure No data available
- l) Vapour density 2,97
- m) Relative density 1,117 g/mL at 25 °C
- n) Water solubility No data available
- o) Partition coefficient: noctanol/ water No data available
- p) Auto-ignition temperature No data available
- q) Decomposition temperature Type C
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

### **9.2 Other safety information**

Relative vapour density 2,97

## **Section 10: Stability and Reactivity Data**

### **10.1 Reactivity**

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Strong acids, Strong bases, Heavy metals

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

## Section 11: Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 420 mg/kg

LC50 Inhalation - Rat - 8 h -

Remarks: Lungs, Thorax, or Respiration:Emphysema. Lungs, Thorax, or Respiration:Other changes.

LC50 Inhalation - Mouse - 4 h -

Remarks: Lungs, Thorax, or Respiration:Emphysema. Lungs, Thorax, or Respiration:Other changes.

LD50 Dermal - Rabbit - 1.980 mg/kg

#### Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe eye irritation

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

In vitro tests showed mutagenic effects

Mouse

lymphocyte

Mutation in mammalian somatic cells.

Hamster

ovary

Cytogenetic analysis

Hamster

Lungs

Mutation in mammalian somatic cells.

Hamster

Embryo

Morphological transformation.

Hamster

Lungs

Sister chromatid exchange

Hamster

ovary

Sister chromatid exchange

Human

lymphocyte

Sister chromatid exchange

Human

lymphocyte

Cytogenetic analysis

Rat

Cytogenetic analysis

Rat

Cytogenetic analysis

### **Carcinogenicity**

Carcinogenicity - Mouse - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Gastrointestinal: Tumors. Skin and Appendages: Other: Tumors.

Carcinogenicity - Rat - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Gastrointestinal: Tumors. Skin and Appendages: Other: Tumors.

Possible human carcinogen

IARC: 2A - Group 2A: Probably carcinogenic to humans (Glycidol)

### **Reproductive toxicity**

Presumed human reproductive toxicant

Reproductive toxicity - Rat - Oral

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Paternal Effects: Testes, epididymis, sperm duct.

Reproductive toxicity - Rat - Oral

Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Reproductive toxicity - Mouse - Oral

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Developmental Toxicity - Mouse - Oral

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

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

May cause respiratory irritation.

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

No data available

### **Aspiration hazard**

No data available

**Additional Information**

RTECS: Not available

Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Section 12: Ecological Information**

**12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 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.

**12.6 Other adverse effects**

No data available

**Section 13: Disposal Considerations**

**13.1 Waste treatment methods**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**Section 14: Transport Information**

**14.1 UN number**

ADR/RID: 2810 IMDG: 2810 IATA: 2810

**14.2 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: Other Regulatory Information**

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Authorisations and/or restrictions on use**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,

**15.2 Chemical safety assessment**

For this product a chemical safety assessment was not carried out

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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