

SAFETY DATA SHEET

Creation Date 22-Sep-2009

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Revision Number 7

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 Glycidol

Cat No. : AC120050000; AC120050025; AC120050050; AC120051000; AC120055000

CAS No 556-52-5
Synonyms 2,3-Epoxy-1-propanol; 3-Hydroxy-1,2-epoxypropane

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

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

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

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Thymus.	

Label Elements**Signal Word**

Danger

Hazard Statements

Combustible liquid

Causes skin irritation

Causes serious eye irritation

Fatal if inhaled

May cause respiratory irritation

Suspected of causing genetic defects

May cause cancer

May damage fertility

May cause damage to organs through prolonged or repeated exposure

Harmful if swallowed or in contact with skin

**Precautionary Statements****Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

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 eye/face protection

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Keep cool

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

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Skin

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor if you feel unwell

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

FireIn case of fire: Use CO₂, dry chemical, or foam to extinguish**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)

None identified

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. Composition/information on Ingredients

Component	CAS No	Weight %
Glycidol	556-52-5	<=100

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.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Remove to fresh air. 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. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms and effects	. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	No information available
Flash Point	71 °C / 159.8 °F
Method -	No information available
Autoignition Temperature	415 °C / 779 °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

Combustible material. Keep product and empty container away from heat and sources of ignition. Risk of ignition. Containers may explode when heated.

Hazardous Combustion ProductsCarbon monoxide (CO). Carbon dioxide (CO₂).**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
4

Flammability
2

Instability
0

Physical hazards
N/A

6. Accidental release measures**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

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. Keep away from open flames, hot surfaces and sources of ignition.

Storage.

Keep in a dry place. Keep container tightly closed. Keep away from heat, sparks and flame. Keep in properly labeled containers. Keep away from heat. To maintain product quality: Keep refrigerated. Incompatible Materials. Strong oxidizing agents. Metals. Acids. Bases.

8. Exposure controls / personal protection**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Glycidol	TWA: 2 ppm	(Vacated) TWA: 25 ppm (Vacated) TWA: 75 mg/m ³ TWA: 50 ppm TWA: 150 mg/m ³	IDLH: 150 ppm REL = 25 ppm (TWA) REL = 75 mg/m ³ (TWA)	TWA: 2 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. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/face Protection**

Tight sealing safety goggles. Face protection shield.

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: Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

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

9. Physical and chemical properties

Appearance

Physical State

Liquid

Color

Clear

Odor

Odorless

Odor Threshold

No information available

Property

Values

Remarks

• Method

Melting Point/Range

-54 °C / -65.2 °F

Softening Point

No data available

Boiling Point/Range

160 - 161 °C / 320 - 321.8 °F

@ 760 mmHg

Flash Point

71 °C / 159.8 °F

Method - No information available

Flammability (liquid)

Combustible liquid

On basis of test data

Flammability (solid,gas)

Not applicable

Liquid

Explosion Limits

No data available

Autoignition Temperature

415 - °C / 779 - °F

Decomposition Temperature

167 °C

pH

5

100 g/L aq.sol

Viscosity

4.0 cP at 20 °C

Water Solubility

Soluble

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

Component

log Pow

Glycidol

-0.95

Vapor Pressure

1.1 mbar @ 25 °C

Density / Specific Gravity

1.110

Bulk Density

Not applicable

Liquid

Vapor Density

2.15

(Air = 1.0)

Particle characteristics

Not applicable (liquid)

Other Information

Molecular Formula

C3 H6 O2

Molecular Weight

74.08

Explosive Properties

explosive air/vapour mixtures possible

10. Stability and reactivity

Reactive Hazard

None known, based on information available

Stability

Stable under normal conditions.

Conditions to Avoid

Excess heat. Incompatible products. Exposure to moist air or water. Heating in air. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials

Strong oxidizing agents, Metals, Acids, Bases

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization

Polymerization can occur.

Hazardous Reactions

None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation	Not an expected route of exposure.
Ingestion	May be harmful if swallowed.
Eyes	Avoid contact with eyes. Irritating to eyes.
Skin	Avoid contact with skin. May cause irritation. Harmful in contact with skin.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycidol	LD50 = 420 mg/kg (Rat)	LD50 = 1980 mg/kg (Rabbit)	LC50 = 1.75 mg/L (Rat) 8 h

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; Category 2

Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment

(f) carcinogenicity; Category 1B

Possible cancer hazard. May cause cancer based on animal data The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Glycidol	556-52-5	Group 2A	Reasonably Anticipated	A3	X	A3

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

Mexico - Occupational Exposure Limits - Carcinogens

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

(g) reproductive toxicity; Category 1B

**Reproductive Effects
Teratogenicity**

Experiments have shown reproductive toxicity effects on laboratory animals.
Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure;

Category 3

Results / Target organs

Respiratory system.

(i) STOT-repeated exposure;

Category 2

Target Organs

Brain, Kidney, Reproductive System, Thymus.

(j) aspiration hazard;

No data available

Symptoms / effects, both acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Do not empty into drains. Do not flush into surface water or sanitary sewer system.

Persistence and Degradability

Persistence is unlikely

Bioaccumulation/ Accumulation

No information available.

Mobility

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

Component	log Pow
Glycidol	-0.95

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 UN2810
 Proper Shipping Name Toxic liquid, organic, n.o.s.
 Technical Shipping Name Glycidol
 Hazard Class 6.1
 Packing Group III

TDG

UN-No UN2810
 Proper Shipping Name Toxic liquid, organic, n.o.s.
 Technical Shipping Name Glycidol
 Hazard Class 6.1
 Packing Group III

IATA

UN-No UN2810
 Proper Shipping Name Toxic liquid, organic, n.o.s.
 Technical Shipping Name Glycidol
 Hazard Class 6.1

Packing Group	III
IMDG/IMO	
UN-No	UN2810
Proper Shipping Name	Toxic liquid, organic, n.o.s.
Technical Shipping Name	Glycidol
Hazard Class	6.1
Packing Group	III

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Glycidol	556-52-5	X	ACTIVE	TP

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TP - Indicates a substance that is the subject of a proposed TSCA Section 4 test rule

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

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Glycidol	556-52-5	X	-	209-128-3	X	X	X	X	X	KE-27538

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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Glycidol	556-52-5	<=100	0.1 %	-

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 contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Glycidol	556-52-5	Carcinogen	0.54 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Glycidol	X	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**

Moderate risk, Grade 2

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)
Glycidol	556-52-5	-	Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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)
Glycidol	556-52-5	Not applicable	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 for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Glycidol	556-52-5	Not applicable	Not applicable	Not applicable	Not applicable

16. Other Information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
Creation Date	22-Sep-2009
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Revision Summary	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

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