

(±)-Glycidol-1,1,2,3,3-d₅

Section 1. Chemical product and company identifications

Product code: D-7483

Chemical formula: C₃HD₅O₂

CAS: 1246819-20-4

CAS (unlabelled): 556-52-5

Synonyms: (±)-2,3-Epoxy-1-propanol; 3-Hydroxypropylene Oxide

Supplier / Manufacturer:

C/D/N Isotopes Inc.

88 Leacock Street

Pointe-Claire (Québec) H9R 1H1

Phone: 514-697-6254

Toll-Free (Canada & USA): 1-800-565-4696

Fax: 514-697-6148

Website: www.cdnisotopes.com

In case of emergency:

TOXYS SCAN HOTLINE: 1-855-780-0599

Section 2. Hazards identifications

Physical state: Liquid

Warning: Combustible liquid. Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye damage.

Routes of entry: Inhalation, skin and eyes

GHS (Globally Harmonized System of Classification and Labelling of Chemicals):

GHS Classification:

- Flammable liquids (Category 4)
- Acute toxicity, Oral (Category 4)
- Acute toxicity, Inhalation (Category 3)
- Acute toxicity, Dermal (Category 4)
- Skin irritation (Category 2)
- Serious eye damage (Category 1)
- Germ cell mutagenicity (Category 2)
- Carcinogenicity (Category 1B)
- Reproductive toxicity (Category 1B)
- Specific target organ toxicity - single exposure (Category 3)

GHS Label elements:

- Pictograms:    
- Signal word: Danger

Hazards statement:

- H227 Combustible liquid.
- H302 + H312 Harmful if swallowed or in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H360 May damage fertility or the unborn child.

Precautionary statement:

- P280 Wear protective gloves/ eye protection/ face protection.
- P302 + P350 IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P311 Call a POISON CENTER or doctor/ physician.

Section 3. Composition and information on ingredients

Name	CAS	Concentration %
(±)-Glycidol-1,1,2,3,3-d ₅	1246819-20-4	> 98

Section 4. First aid measures

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

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

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

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Section 5. Firefighting measures

Flammability of the product: Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Lower explosion limit: No data available.

Upper explosion limit: No data available.

Auto-ignition temperature: No data available.

Flash point: 81 °C (178 °F)

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides.

Firefighting media and instructions: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Section 6. Accidental release measures

Personal precautions: 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.

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

Methods for 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). Keep in suitable, closed containers for disposal.

Section 7. Handling and storage

Handling: 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.

Storage: STORE REFRIGERATED. Adequate ventilation. Protect from heat and ignition sources.

Section 8. Exposure Controls, Personal Protections

Engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

Eyes: 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).

Respiratory: 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).

Hands: Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Skin/body: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Section 9. Physical and chemical properties (unlabelled)

Molecular weight: 74.08 g/mol

Physical status: Liquid

Color: Colorless

Odour: No data available

Density: 1.117 g/mL

Melting point: - 54 °C (-65 °F)

Boiling point: 61 - 62 °C (142 - 144 °F) at 20 hPa (15 mmHg).

Vapour pressure: No data available

Vapour density: 2.97 (Air = 1)

Partition coefficient (octanol/water): No data available

Water solubility: No data available

Section 10. Stability and reactivity

Stability and reactivity: Stable under recommended storage conditions.

Incompatibility: Strong acids, strong bases, heavy metals.

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides.

Reactivity conditions: Heat, flames and sparks.

Section 11. Toxicological information (unlabelled)

Toxicological data: Glycidol

Information on ingredients:

Name	CAS	LD ₅₀	LC ₅₀
Glycidol	556-52-5	Oral - Rat - 420 mg/kg Dermal - Rabbit - 1,980 mg/kg	Inhalation - Rat - 8 h - 580 ppm

Potential acute effects

- **Eyes:** Causes serious eye damage.
- **Skin:** Harmful if absorbed through skin. Causes skin irritation.
- **Inhalation:** Toxic if inhaled. May cause respiratory tract irritation.
- **Ingestion:** Harmful if swallowed.

Potential chronic effects

- **Carcinogenic effects:** 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).
- **Mutagenic effects:** In vitro tests showed mutagenic effects. Genotoxicity in vitro - Mouse - lymphocyte. Mutation in mammalian somatic cells. Genotoxicity in vitro - Hamster - ovary. Cytogenetic analysis. Genotoxicity in vitro - Hamster - Lungs. Mutation in mammalian somatic cells. Genotoxicity in vitro - Hamster - Embryo. Morphological transformation. Genotoxicity in vitro - Hamster - Lungs. Sister chromatid exchange. Genotoxicity in vitro - Hamster - ovary. Sister chromatid exchange. Genotoxicity in vitro - Human - lymphocyte. Sister chromatid exchange. Genotoxicity in vitro - Human - lymphocyte. Cytogenetic analysis. Genotoxicity in vivo - Rat - Intraperitoneal. Cytogenetic analysis. Genotoxicity in vivo - Rat - Oral. Cytogenetic analysis.
- **Teratogenic effects:** Developmental Toxicity - Mouse - Oral. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Presumed human reproductive toxicant.
- **Medical conditions aggravated by overexposure:** Central nervous system depression.

Section 12. Ecological information

Ecological data:

Name	Results	Species	Period
Glycidol	No data available		

Effects on environment: No data available.

Mobility: No data available.

Environmental precautions: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Section 13. Disposal considerations

Waste disposal: 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. Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation information

Classification DOT/IMDG/IATA label:

Shipping name: Toxic, liquids, organic, n.o.s. (Glycidol)

UN number: UN2810

Class: 6.1

Packaging group: III

Additional information: None

Section 15. Regulatory information

UNITED STATES:

NFPA classification



Health: 4
Flammable: 2
Reactivity: 0
Specials conditions: None

Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous

U.S. Federal regulations:

TSCA 8(b) inventory: Glycidol

SARA 302/304/311/312 extremely hazardous substances: Not Listed

SARA 302/304 emergency planning and notification: Not Listed

SARA 302/304/311/312 hazardous chemicals: Not Listed

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Fire hazard, Immediate (acute)

health hazard, Delayed (chronic) health hazard: Not Listed

CWA (Clean Water Act) 307: Not Listed

CWA (Clean Water Act) 311: Not Listed

CAA (Clean Air Act) 112 accidental release prevention: Not Listed

CAA (Clean Air Act) 112 regulated flammable substances: Not Listed

CAA (Clean Air Act) 112 regulated toxic substances: Not Listed

State regulations:

DEA List I Chemicals (Precursor Chemicals): Not Listed

DEA List II Chemicals (Essential Chemicals): Not Listed

Substances in Massachusetts: Not Listed

Dangerous substances in New Jersey: Not Listed

New York – Dangerous substances with acute effects: Not Listed

Dangerous substances in Pennsylvania – right to know: Not Listed

WHMIS (Canada):



B3 - Combustible liquid



D1A - Very toxic material causing immediate and serious toxic effects
D1B - Toxic material causing immediate and serious toxic effects



D2A - Very toxic material causing other toxic effects
D2B - Toxic material causing other toxic effects



E - Corrosive material

Section 16. Additional information

References:

- ANSI Z400.1, MSDS Standard, 2001.
- Manufacturer's Material Safety Data Sheet.
- 29CFR Part1910.1200 OSHA MSDS Requirements.
- 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada
- Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List".
- Federal act on the controlled products
- Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2002.
- Toxicological repertory, HSC.
- Material safety data sheet from the components.

Date of issue: July 26th, 2017

Version: 1

Elaborated by: Toxyscan Inc., 1-866-780-0599

Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, C/D/N Isotopes Inc., Toxyscan Inc., or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.