

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: Dynasylan® GLYMO
Chemical name:
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane

Other means of identification

CAS Number: 2530-83-8

Recommended restrictions

Recommended use: For industrial use Coupling agent Crosslinking agents Surface modifier
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
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Parsippany, NJ 07054
USA

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Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)
Emergency 800 681 9531 (CHEMTREC MEXICO)
+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation Category 1

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Chronic hazards to the aquatic environment Category 3

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Causes serious eye damage.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Disposal: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane		2530-83-8	<=100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Immediately remove contaminated clothing.

Inhalation: If aerosol or mists are formed: Move to fresh air. Get medical attention if any discomfort continues.

Skin Contact: Wash off immediately with plenty of water. If skin irritation persists, call a physician.

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Eye contact: With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes. Continue rinsing process with eye rinsing solution. Protect unharmed eye. Call ambulance. (Cue: caustic burn of the eyes) Immediate further treatment in eye clinic/by eye doctor. continue rinsing eye until arrival at ophthalmic hospital.

Ingestion: Have the mouth rinsed with water. Only when patient fully conscious: Have patient drink plenty of water in small sips. Get medical attention immediately.

Personal Protection for First-aid Responders: No data available.

Most important symptoms and effects, both acute and delayed

Symptoms: After absorbing large amounts of substance: Liberation of reaction products (Methanol) can lead to symptoms of poisoning. Possible signs of poisoning: daze, dizziness, nausea, colicky abdominal pain, respiratory disturbance. Symptoms upon increasing intoxication: dysopia, loss of eyesight.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: If required, therapy of irritative effect. Treatment Early endoscopy in order to assess mucosa lesions in the oesophagus and stomach which may appear. If necessary, aspirate leftover substance. Detection of substance (Methanol) possible in: Blood Antidote treatment: ethanol.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture: Standard procedure for chemical fires.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters: As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures

Product name: Dynasylan® GLYMO

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Do not breathe in vapours or aerosols.
Methods and material for containment and cleaning up:	Soak up with absorbent material, e.g., sand, silica gel, acid binder, universal binder or sawdust. Place in a marked, sealable container and dispose of in accordance with existing federal, provincial, state and local regulations.
Environmental Precautions:	Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, rivers, groundwater or soil.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	Provide for good ventilation if vapours/aerosols are formed.
Safe handling advice:	Handle in accordance with good industrial hygiene and safety practice. Provide good ventilation or extraction. Handle in accordance with good industrial hygiene and safety practice. Wear suitable protective equipment. Do not breathe in vapours or aerosols. If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used. Avoid contact with eyes, skin, and clothing. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. Keep away from heat. Keep away from sparks, flames and other sources of ignition. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use with adequate ventilation. Ground and bond containers when transferring material. Use explosion-proof equipment. Follow all SDS/label precautions even after the container is emptied because it may retain product residues. Wash thoroughly after handling.
Contact avoidance measures:	No data available.

Storage

Safe storage conditions:	Keep away from heat and from sources of ignition. Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls	Provide for good ventilation if vapours/aerosols are formed.
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Individual protection measures, such as personal protective equipment

Eye/face protection:	Wear safety glasses with side shields.
Skin Protection	
Hand Protection:	Material: Butyl rubber. Break-through time: >= 480 min Material: Fluorinated rubber (Viton) Break-through time: >= 480 min Additional Information: Selection of protective gloves to meet the requirements of specific workplaces., Suitability for specific workplaces should be clarified with protective glove manufacturers., The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use., Use impermeable gloves.
Skin and Body Protection:	A safety shower and eye wash fountain should be readily available. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.
Respiratory Protection:	A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.
Hygiene measures:	Avoid contact with skin, eyes and clothing. Do not inhale vapors or aerosols. Do not eat, drink, or smoke when using the product. Remove contaminated or saturated clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	ester-like
Odor Threshold:	No data available.
Freezing point:	< -94 °F/< -70 °C (literature)
Boiling Point:	194 °F/90 °C (0.7 hPa) (DIN 51 356) 504 °F/262 °C (1,013 hPa) (DIN 51 356)
Flammability:	No data available.
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	(DIN EN 1839) > 13.6 %(V)
Explosive limit - lower:	(DIN EN 1839) 0.7 %(V)
Flash Point:	252 °F/122 °C (DIN EN ISO 2719)
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.

pH:	No data available.
Viscosity	
Dynamic viscosity:	3.65 mPa.s (77 °F/25 °C, DIN 53015)
Kinematic viscosity:	No data available.
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	not miscible decomposition by hydrolysis
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	0.5
Vapor pressure:	< 0.1 hPa (68 °F/20 °C)
Relative density:	No data available.
Density:	Approximate 1.07 g/cm ³ (68 °F/20 °C) (DIN 51757)
Bulk density:	No data available.
Relative vapor density:	No data available.

Particle characteristics

Particle Size:	Not applicable
Particle Size Distribution:	Not applicable
Specific surface area:	No data available.
Surface charge/Zeta potential:	No data available.
Shape:	Not applicable
Crystallinity:	Not applicable
Surface treatment:	Not applicable

Other information

Explosive properties:	Not explosive
Minimum ignition temperature:	451 °F/233 °C (EC Method A.15)
Peroxides:	Not applicable
Metal Corrosion:	Not to be expected in view of the structure
Evaporation Rate:	No data available.
Molecular weight:	236.3 g/mol

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Exothermic reaction with: Peroxides.
Conditions to avoid:	Protect from moisture.
Incompatible Materials:	Water. Peroxides.
Hazardous Decomposition Products:	Methanol in case of hydrolysis. Alcohol formed by hydrolysis lowers the flash point of the product.

11. Toxicological information

Information on toxicological effects

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat, Female, Male): 8,025 mg/kg (OECD 401)

Dermal

Product: LD 50 (Rabbit, Male): > 2,000 mg/kg (OECD 402)

Inhalation

Product: LC 50 (Rat, Female, Male, 4 h): 5.3 mg/l Dusts, mists and fumes

Repeated dose toxicity

Product: NOAEL (Rat(Female, Male), Oral, 90 d, 7 days a week): \geq 1,000 mg/kg
NOAEC (Rat(Male), Inhalation - dust and mist, 28 d, 6 hours/day): 119 mg/m³

Skin Corrosion/Irritation

Product: OECD 404 (Rabbit): Not irritating;

Serious Eye Damage/Eye Irritation

Product: Rabbit: Risk of serious damage to eyes.

Respiratory or Skin Sensitization

Product: Buehler Test, OECD 406 (Guinea Pig): Not a skin sensitizer.

Carcinogenicity

Product: Did not show carcinogenic effects in animal experiments.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Product name: Dynasylan® GLYMO

Germ Cell Mutagenicity**In vitro****Product:** Ames test (OECD 471): positive and negative;**In vivo****Product:** No data available.**Reproductive toxicity****Product:** Animal testing did not show any effects on fertility.**Specific Target Organ Toxicity - Single Exposure****Product:** Not classified based on available information.**Specific Target Organ Toxicity - Repeated Exposure****Product:** Not classified based on available information.**Aspiration Hazard****Product:** No evidence of aspiration toxicity**Information on health hazards****Other hazards****Product:** Glycidoxypopyl trimethoxysilane administration by gavage to timed-pregnant rats during organogenesis resulted in maternal toxicity and slight fetotoxicity at 3000 mg/kg/day. No treatment-related malformation occurred at any dosage. The NOEL (No Observable Effect Level) for maternal toxicity as well as developmental toxicity was 1500 mg/kg/day for the specified study.;**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** LC 50 (Cyprinus carpio (Carp), 96 h): 55 mg/l**Aquatic Invertebrates****Product:** LC 50 (Simocephalus vetulus, 48 h): 324 mg/l
NOEC (Simocephalus vetulus, 48 h): 250 mg/l**Toxicity to Aquatic Plants****Product:** EC 50 (Algae (Pseudokirchneriella subcapitata), 96 h): 350 mg/l (OECD 201)**Toxicity to microorganisms****Product:** EC 50 (local activated sludge, 3 h): > 100 mg/l (OECD 209) tested in the presence of emulsifiers**Chronic hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic Invertebrates****Product:** NOEC (Daphnia magna, 21 d): 100 mg/l (OECD 211)
Lowest Observed Effect Concentration (Daphnia magna, 21 d): > 100 mg/l (OECD 211)

Toxicity to Aquatic Plants

Product: NOEC (Algae (Pseudokirchneriella subcapitata), 96 h): 130 mg/l (OECD 201)

Toxicity to microorganisms

Product: EC 50 (local activated sludge, 3 h): > 100 mg/l (OECD 209) tested in the presence of emulsifiers

Persistence and Degradability

Biodegradation

Product: 37 % (28 d, (DOC; Die Away test - 79/831/EEC part C.4-A)), aerobic, Not readily degradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: not bioaccumulative

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 0.5 20 °C

Mobility in soil:

Product Adsorption on the floor: low.

Results of PBT and vPvB assessment:

Product No data available.

Other adverse effects:

Other hazards

Product: Harmful to aquatic life with long lasting effects.

13. Disposal considerations

Disposal methods:

Waste must be disposed of in accordance with local, state, provincial and federal laws and regulations. Empty containers must be handled with care due to product residue.

Contaminated Packaging:

Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label. Incorrect disposal or reuse of this container is illegal and can be dangerous. Other countries: observe the national regulations.

14. Transport information

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Not dangerous according to transport regulations.

International Regulations**UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):**Chemical Identity**

methanol

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Serious eye damage or eye irritation

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations**US. California Proposition 65**



WARNING: This product can expose you to chemicals including, methanol, which is [are] known to the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.

US. New Jersey Worker and Community Right-to-Know Act

None present or none present in regulated quantities.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

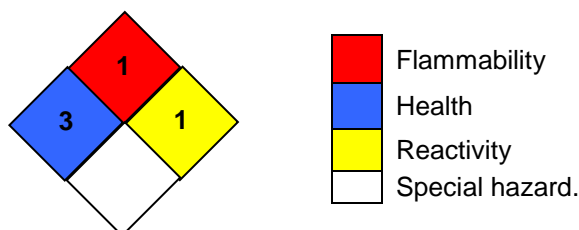
16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	3
Flammability	1
Physical Hazards	1
PERSONAL PROTECTION	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 10/04/2021

Version #: 2.0

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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