SAFETY DATA SHEET

Classified in accordance with 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 2 Turner Place Piscataway, NJ 08854 USA
Telephone	:	+1 732 981 5000
E-mail	:	product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) 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 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.

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

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Do not breathe in vapours or aerosols.
Accidental release measures:	No data available.
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:	No data available.
Local/Total 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:	The product has a high conductivity (static conductivity > 10,000 pS/m) Take precautionary measures against static discharges.Keep away from heat and from sources of ignitionKeep 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.

Individual protection measures, such as personal protective equipment (PPE)

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., The suitability for a specific workplace should be discussed with the producers of the protective gloves., 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: Safety showers and eye showers should be easily accessible. In order to determine further specifications applicable to the personal protection equipment, a hazard assessment according to the OSHA standards (29 CFR 1910.132) for personal protection equipment (PPE) is recommended before the product is used.

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 at 0.7 hPa Method: DIN 51 356 504 °F/262 °C at 1,013 hPa Method: DIN 51 356
Flammability:	No data available.
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	Method: DIN EN 1839 > 13.6 %(V) at 392 °F/200 °C
Explosive limit - lower:	Method: DIN EN 1839 0.7 %(V) at 392 °F/200 °C, 1 bar
Flash Point:	252 °F/122 °C Method: DIN EN ISO 2719
Auto-ignition temperature:	451 °F/233 °C Method: EC Method A.15
Decomposition Temperature:	No data available.
pH:	No data available.
Viscosity	
Dynamic viscosity:	3.65 mPa.s at 77 °F/25 °C Method: 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 at 68 °F/20 °C
Vapor pressure:	< 0.1 hPa at 68 °F/20 °C
Relative density:	No data available.
Density:	Approximate 1.07 g/cm3 at 68 °F/20 °C Method: DIN 51757
Bulk density:	No data available.
Relative vapor density:	No data available.

Other information

Explosive properties:	Not explosive
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 likely routes of exposure

Inhalation:	Information on effects are given below.
Skin Contact:	Information on effects are given below.
Eye contact:	Information on effects are given below.
Ingestion:	Information on effects are given below.

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, Not toxic after single exposure

Inhalation
Product: LC 50, Rat, Female, Male, 4 h, 5.3 mg/l, Dust and mist, OECD 403

Repeated dose toxicity
Product: NOAEL Rat, Female, Male, Oral, 90 day, 7 days a week, >= 1,000 mg/kg
NOAEC, Rat, Male, Inhalation - dust and mist, 28 day, 6 hours/day, 119 mg/m³

Skin Corrosion/Irritation
Product: Not irritating, OECD 404, (Rabbit)

Serious Eye Damage/Eye Irritation
Product: Risk of serious damage to eyes., OECD 405, Rabbit

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 1910.1001-1053), as amended:
No carcinogens present or none present in regulated quantities

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: Glycidoxypropyl trimethoxysilane administration by gavage to timed-pregnant rats during organogenesis resulted in maternal toxicityand slight fetotoxicity at 3000 mg/kg/day. No treatment-related malformation occured 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, 96 h, 55 mg/lOECD 203

Aquatic Invertebrates
Product: LC 50, Simocephalus vetulus, 48 h, 324 mg/lUS-EPA-method

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 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: 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 (on the basis of current knowledge of the product composition).

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 (on the basis of current knowledge of the product composition).

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

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 (on the basis of current knowledge of the product composition).

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities (on the basis of current knowledge of the product composition).

US State Regulations

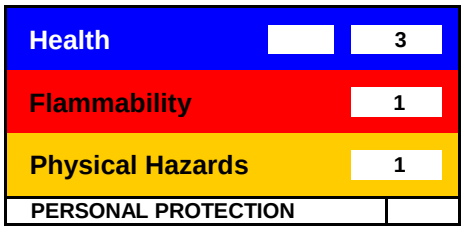
US. California Proposition 65
No ingredient requiring a warning under CA Prop 65.

Inventory Status:

Australia Industrial Chem. Act (AIIC):	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory Pre-registration is requested for specific importer.
US TSCA Inventory:	On or in compliance with the inventory Commercial Status: Active
Switzerland New Subs Notified/Registered:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory EU-REACH compliant for Evonik Operations GmbH and its affiliates as EU manufacturer/EU importer.

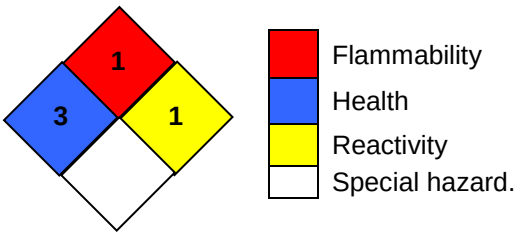
16.Other information, including date of preparation or last revision

HMIS Hazard ID



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

Version #: 2.2

Generation date: 01/15/2025

Date of first report version: 04/01/2019

Abbreviations and acronyms:

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the

European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further Information: No data available.

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

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