

SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: Dynasylan® 1189

Other means of identification

CAS Number: 31024-56-3

Recommended restrictions

Recommended use: For industrial use Coupling agent Crosslinking agents Surface modifier Polymer modification

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 : +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

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:

Causes skin irritation.
 Causes serious eye damage.

Precautionary Statements

Prevention:

Wash thoroughly after handling. Wear protective gloves/protective clothing.

Response:

IF ON SKIN: Wash with plenty of soap and water. 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. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Hazard(s) not otherwise classified (HNOC):

None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
N-[3-(trimethoxysilyl)propyl]butylamine		31024-56-3	>=80 - <=100%
methanol		67-56-1	<1%

^{*} 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:

Take off all contaminated clothing immediately.

Inhalation:

If aerosol or mists are formed: Move to fresh air. In case of persistent discomfort: Consult doctor immediately.

Skin Contact:

Wash off immediately with plenty of water. Consult a doctor in the event of permanent skin irritation.

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. Call a physician immediately.

Personal Protection for First-aid Responders:

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

Most important symptoms/effects, 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.
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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.

Specific hazards arising from the chemical: Hazardous fumes in fires, specific to the product: Nitrogen Oxides

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

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.

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): Ensure good ventilation during processing.

Safe handling advice: Handle in accordance with good industrial hygiene and safety practice. If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used. If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used. Use protective clothing / face shield if necessary. Do not breathe in vapours or aerosols. Avoid contact with skin and eyes. Use with adequate ventilation.

Contact avoidance measures: No data available.

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.

Storage

Safe storage conditions: The product has an intermediate conductivity (static conductivity 100-10,000 pS/m) Liquids with a low conductivity (static conductivity < 100 pS/m) or intermediate conductivities (static conductivity 100 pS/m - 10,000 pS/m) might become electrostatically charged and thus present potential sources ignition. Germany: Technical Rules for Hazardous Substances - Prevention of the Risk of Ignition as a Result of Electrostatic Charges EU: NFPA 77, Recommended Practice on Static Electricity Take action to prevent static discharges. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture.

Safe packaging materials: No data available.

Storage Temperature: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
methanol	TWA	200 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	STEL	250 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	STEL	250 ppm	325 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	REL	200 ppm	260 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	200 ppm	260 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Appropriate Engineering Controls Ensure good ventilation during processing.

Individual protection measures, such as personal protective equipment

Eye/face protection: Use chemical splash goggles or face shield.

Skin Protection

Hand Protection: Material: Butyl rubber.
Break-through time: >= 480 min
Material: Fluorinated rubber (Viton)
Break-through time: >= 480 min
Additional Information: 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., Suitability for specific workplaces should be clarified with protective glove manufacturers., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., 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.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	colorless to yellowish
Odor:	slightly ammoniacal
Odor Threshold:	No data available.
pH:	10.9 (20 g/l, 20 °C)
Freezing point:	< -38.0 °C (ISO 3841)
Boiling Point:	238 °C (1,013 hPa) (DIN 51751)
Flash Point:	> 95 °C (DIN EN ISO 2719 (Pensky-Martens, Closed Cup))
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.

Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	< 0.1 hPa (20 °C) (AN-SOP 1024)
Vapor density (air=1):	No data available.
Density:	0.947 g/cm ³ (20 °C) (DIN 51757)
Relative density:	No data available.
Solubility in Water:	Not miscible. Decomposition by hydrolysis.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	2.2 (QSAR)
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	No data available.
Dynamic viscosity:	2.5 mPa.s (20 °C)
Other information	
Explosive properties:	not explosive
Oxidizing properties:	No data available.
Minimum ignition temperature:	260 °C (DIN 51 794)
Peroxides:	Not applicable

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: acids
Conditions to avoid:	Protect from moisture.
Incompatible Materials:	Acids.
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:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

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

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 12,825 mg/kg

Dermal

Product: LD 50 (Rabbit): 15,200 mg/kg

Inhalation

Product: No toxicological tests have been conducted with the product itself.

Repeated dose toxicity

Product: NOAEL (Rat, Oral): \geq 500 mg/kg

Skin Corrosion/Irritation

Product: Irritating. OECD 404 (Rabbit): Irritating.

Serious Eye Damage/Eye Irritation

Product: Risk of serious damage to eyes. Rabbit: Risk of serious damage to eyes.

Respiratory or Skin Sensitization

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

Carcinogenicity

Product: Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

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

Germ Cell Mutagenicity

In vitro

Product: Ames test (OECD 471): negative
gene mutation test (OECD 476): negative tested substance: Structurally similar substance
Chromosomal aberration (OECD 473): negative tested substance: Structurally similar substance

In vivo

Product: No data available.

Components:

methanol

Micronucleus test Intraperitoneal (Mouse, male and female): negative
Chromosomal aberration (OECD 474) Intraperitoneal (Mouse, male and female): negative

Reproductive toxicity

Product name: Dynasylan® 1189

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:

methanol

optic nerve, Central nervous system. - Category 1 Causes damage to organs.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No evidence of aspiration toxicity

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC 50 (Danio rerio, 96 h): > 100 mg/l tested substance: Structurally similar substance

Aquatic Invertebrates

Product: EC 50 (Daphnia magna, 48 h): > 100 mg/l tested substance: Structurally similar substance

Toxicity to Aquatic Plants

Product: EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l (OECD 201) tested substance: Structurally similar substance

Specified substance(s):

N-[3-(trimethoxysilyl)propyl]butylamine
Product: EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l (OECD 201) tested substance: Structurally similar substance

methanol
Product: ErC50 (Selenastrum capricornutum (green algae), 96 h): Approximate 22,000 mg/l literature

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s):

N-[3-(trimethoxysilyl)propyl]butylamine
methanol

No data available.
No data available.

Persistence and Degradability

Biodegradation

Product: 24.7 % (28 d, OECD 301 B)

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: low

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 2.2 20 °C (QSAR)

Mobility in soil:

Adsorption on the floor: low.

Other adverse effects:

The data we have at our disposal do not necessitate identification concerning environmental hazard.

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

ETHYLENEDIAMINE

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Skin Corrosion or Irritation, 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

Chemical Identity

ethylenediamine; 1,2-

diaminoethane

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):

Chemical Identity

ethylenediamine; 1,2-diaminoethane

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

Chemical Identity

ethylenediamine; 1,2-diaminoethane

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

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

US. Massachusetts RTK - Substance List

Chemical Identity

ethylenediamine; 1,2-diaminoethane

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.

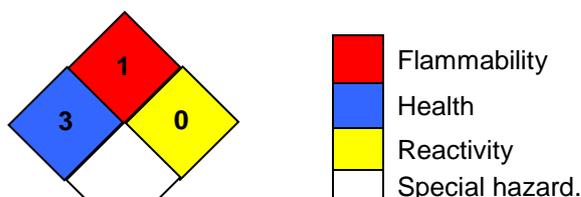
16. Other information, including date of preparation or last revision

HMIS Hazard ID

Health	3
Flammability	1
Physical Hazards	0
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: 08/18/2020

Version #: 1.1

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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