

# 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 (%) <sup>*</sup>
N-[3-(trimethoxysilyl)propyl]butylamine		31024-56-3	>=80 - <=100%
methanol		67-56-1	<1%

<sup>\*</sup> 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

<b>Symptoms:</b>	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.
<b>Hazards:</b>	None known.

### Indication of immediate medical attention and special treatment needed

<b>Treatment:</b>	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 <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	REL	200 ppm	260 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	200 ppm	260 mg/m <sup>3</sup>	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:  $\geq 480$  min  
Material: Fluorinated rubber (Viton)  
Break-through time:  $\geq 480$  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**

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

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

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions:</b>	Exothermic reaction with: acids
<b>Conditions to avoid:</b>	Protect from moisture.
<b>Incompatible Materials:</b>	Acids.
<b>Hazardous Decomposition Products:</b>	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

<b>Inhalation:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.
<b>Ingestion:</b>	No data available.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	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:** 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  
methanol  
EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l (OECD 201) tested substance: Structurally similar substance  
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	No data available.
methanol	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](http://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.

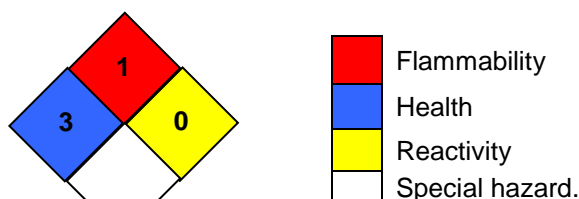
**16. Other information, including date of preparation or last revision**

**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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