

Product name: Dynasylan® AMMO

SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: Dynasylan® AMMO

Chemical name:
3-(Trimethoxysilyl)propylamine

Other means of identification

CAS Number: 13822-56-5

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 Emergency Telephone	: +1 800 424 9300 (CHEMTREC - US & CANADA) 800 681 9531 (CHEMTREC MEXICO) +1 703 527 3887 (CHEMTREC WORLD)
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2. Hazard(s) identification

Hazards for the product as supplied

Physical Hazards

Flammable liquids	Category 4
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Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1

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

Label Elements

Hazard Symbol:

Product name: Dynasylan® AMMO


Signal Word: Danger

Hazard Statement:
 Combustible liquid.
 Causes skin irritation.
 Causes serious eye damage.

Precautionary Statements
Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). 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. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage: Store in a well-ventilated place. Keep cool.

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

3. Composition/information on ingredients
Chemical name:
 3-(Trimethoxysilyl)propylamine

Substances

Chemical Identity	Common name and synonyms	CAS No./Unique ID	Content in percent (%) [*]	Trade Secret
3-(Trimethoxysilyl)propylamine		13822-56-5 [*]	>=90 - <=100%	TSC
Toluene		108-88-3 [*]	<0.1%	TSC

^{*} Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

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

Composition information of impurities and stabilizers

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
methanol		67-56-1	<0.3%

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

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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.
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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.

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Special hazards arising from the substance or mixture:

 Hazardous fumes in fires, specific to the product: Nitrogen Oxides
 Combustible liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

Special protective equipment and precautions for firefighters
Special fire fighting procedures:

As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear. Containers can build up pressure if exposed to heat (fire). Cool with water spray.

Special protective equipment for fire-fighters:

In case of fire: wear a self contained respiratory apparatus

6. Accidental release measures
Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment.

Accidental release measures:

Remove sources of ignition and ventilate area. Run off may create fire or explosion hazard in sewer. Assure sufficient ventilation.

Methods and material for containment and cleaning up:

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Environmental Precautions:

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

7. Handling and storage
Handling
Technical measures:

No data available.

Local/Total ventilation:

Application, processing: Provide good ventilation or extraction.

Safe handling advice:

Application, processing: Provide good ventilation or extraction. Avoid contact with eyes, skin, and clothing. For personal protection see section 8. Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.

Keep away from heat, sparks, flames and other sources of ignition. Keep container tightly closed. Use only with adequate ventilation.

Follow all SDS/label precautions even after container is emptied because it may retain product residues. 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,

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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. Use protective clothing / face shield if necessary.

Contact avoidance measures:

No data available.

Storage
Safe storage conditions:

Keep away from sources of ignition - No smoking. Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container. This material may have a low electrical conductivity and therefore may accumulate dangerous levels of static electricity. An ignitable vapor-air mixture can form inside storage tanks.

The user must be sure to dissipate static charge by careful bonding and grounding of all equipment and personnel involved in fluid transfer with continuity checks to prove effectiveness. Additional precautions against fire and explosion are the use of inert gas to purge vapor space; dip-pipes while filling vessels, especially lined vessels; grounded tank level floats; reduced flow velocity; self-closing valves on transfer lines and flame arrestors in vent lines.

Additional guidance on fire and explosion protection may be found in various consensus standards, including NFPA 30, 69 and 77 and API 2003 as well as OSHA regulation 29CFR1910.106.

Follow all SDS/label precautions even after container is emptied because it may retain product residues.

Safe packaging materials:

No data available.

8. Exposure controls/personal protection
Control Parameters
Occupational Exposure Limits

Components	Type	Form of exposure	Exposure Limit Values		Source
Toluene	TWA		20 ppm		ACGIH (03 2016)
	STEL		150 ppm	560 mg/m ³	NIOSH (2010)
	REL		100 ppm	375 mg/m ³	NIOSH (2010)
	TWA		200 ppm		OSHA Z2 (02 2006)
	Ceiling		300 ppm		OSHA Z2 (02 2006)
	MAX. CONC		500 ppm		OSHA Z2 (02 2006)
methanol	TWA		200 ppm		ACGIH (03 2016)
	STEL		250 ppm		ACGIH (03 2016)
	STEL		250 ppm	325 mg/m ³	NIOSH (2010)
	REL		200 ppm	260 mg/m ³	NIOSH (2010)
	PEL		200 ppm	260 mg/m ³	OSHA Z1 (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.

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Biological Limit Values

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

Appropriate Engineering Controls

Application, processing: Provide good ventilation or extraction.

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

Eye/face protection:

close-fitting protective goggles (e.g. closed goggles)

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., 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., Use impermeable gloves.

Skin and Body Protection:

When handling larger quantities: chemical protective suit, disposable protective clothing, acid-proof (Solvent-resistant) 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:

When using, do not eat, drink or smoke. Wash face and/or hands before break and end of work. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Product name: Dynasylan® AMMO

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	amine-like ammoniacal
Odor Threshold:	No data available.
Freezing point:	< -76 °F/ < -60 °C Literature
Boiling Point:	381 °F/ 194 °C (1,013 hPa) Method: DIN 51751
Flammability:	No data available.
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Flash Point:	194 °F/90 °C Method: DIN EN ISO 2719
Auto-ignition temperature:	563 °F/295 °C 1,013 hPa Method: DIN 51794
Decomposition Temperature:	No data available.
pH:	> 9.0 (68 °F/20 °C) Concentration: 20 g/l
Viscosity	
Dynamic viscosity:	2 mPa.s (68 °F/20 °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):	0.2 (68 °F/20 °C) Method: QSAR
Vapor pressure:	18 Pa (68 °F/20 °C) Method: QSAR
Relative density:	No data available.
Density:	Approximate 1.02 g/cm3 (68 °F/20 °C) Method: DIN 51757
Bulk density:	No data available.
Relative vapor density:	No data available.
Particle characteristics:	Not applicable.
Other information	
Explosive properties:	Not explosive
Peroxides:	Not applicable

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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:	Keep away from heat and sources of ignition. Vapours may form explosive mixtures with air.
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:	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.

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.

Acute toxicity (list all possible routes of exposure)

Oral

Product:	LD 50, Rat, Male, 3,030 mg/kg, OECD 401
Components:	
3-(Trimethoxysilyl)propylamine	LD 50, Rat, Male, 3,030 mg/kg, OECD 401
methanol	LD 50, Rat, 100 mg/kg
Toluene	LD 50, Rat, Male, 5,580 mg/kg

Dermal

Product:	LD 50, Rabbit, Male, > 10,000 mg/kg, OECD 402
Components:	
3-(Trimethoxysilyl)propylamine	LD 50, Rabbit, Male, > 10,000 mg/kg, OECD 402
methanol	LD 50, Rat, 300 mg/kg

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Toluene LD 50, Rabbit, Male, > 5,000 mg/kg

Inhalation
Product: Not classified for acute toxicity based on available data.

Components:

 3- Dust and mist, Not toxic after single exposure, No data available.
 (Trimethoxysilyl)propylami Vapour, Not toxic after single exposure, No data available.

ne

methanol

LC 50, Acute toxicity estimate, 4 h, 3 mg/l, Vapour

LC 50, Acute toxicity estimate, 4 h, > 0.5 mg/l, Dust and mist

Toluene

LC 50, Rat, Female, Male, 4 h, 28.1 mg/l, Dust and mist, OECD 403

LC 50, Rat, Male, 4 h, 25.7 mg/l, Dust and mist, OECD 403

LC 50, Rat, Female, 4 h, 30 mg/l, Dust and mist, OECD 403

Vapour, Not toxic after single exposure, Not applicable

Repeated dose toxicity
Product: NOAEL Rat, Female, Male, Oral, 90 day, 7 days a week, 200 mg/kg,
 LOAEL Rat, Female, Male, Oral, 90 day, 7 days a week, 600 mg/kg,
 (analogy)

Components:

 3- NOAEL Rat, Female, Male, Oral, 90 day, 7 days a week, 200 mg/kg,
 (Trimethoxysilyl)propylami LOAEL Rat, Female, Male, Oral, 90 day, 7 days a week, 600 mg/kg,
 ne (analogy)

Skin Corrosion/Irritation
Product: Irritating., OECD 404, (Rabbit)

Components:

3- Irritating., OECD 404, Rabbit

 (Trimethoxysilyl)propylami
 ne

methanol

Not irritating, Rabbit, Literature

Toluene

Irritating., OECD 404, Rabbit

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

Components:

3- Risk of serious damage to eyes., OECD 405, Rabbit

 (Trimethoxysilyl)propylami
 ne

methanol

Not irritating, Rabbit

Toluene

Not irritating, OECD 405, Rabbit

Respiratory or Skin Sensitization
Product: Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Components:

3- Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

 (Trimethoxysilyl)propylami
 ne

methanol

Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Toluene

Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer.

Carcinogenicity
Product: To our knowledge, no component of this product present at levels greater
 than or equal to 0.1% is identified as a known or anticipated carcinogen
 by NTP, IARC, or OSHA. No evidence that cancer may be caused.

Components:

3- No evidence that cancer may be caused.

 (Trimethoxysilyl)propylami
 ne

Product name: Dynasylan® AMMO

methanol	Not classified
Toluene	Not classified

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: , negative Chromosomal aberration, OECD 473: , negative gene mutation test, OECD 476: , negative, (analogy)
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Components:

3-(Trimethoxysilyl)propylamine	Ames test, OECD 471: , negative Chromosomal aberration, OECD 473: , negative gene mutation test, OECD 476: , negative, (analogy)
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methanol	Ames test, OECD 471: , negative gene mutation test, OECD 476: , negative Micronucleus test: , negative
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Toluene	gene mutation test, OECD 476: , negative
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In vivo

Product:	Micronucleus test, OECD 474, Intraperitoneal, Mouse, negative, (analogy)
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Components:

3-(Trimethoxysilyl)propylamine	Micronucleus test, OECD 474, Intraperitoneal, Mouse, negative, (analogy)
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methanol	Micronucleus test, OECD 474, Intraperitoneal, Mouse, Female, Male, negative Chromosomal aberration, Intraperitoneal, Mouse, Female, Male, negative
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Toluene	Chromosomal aberration, Intraperitoneal, Rat, negative, Literature
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Reproductive toxicity

Effects on fertility

Not classified based on available data.

Effects on fetal development

Not classified based on available data.

Reproductive toxicity - Assessment

Product:	Reproductive toxicity: An Expert Judgment stated that no classification is necessary based on present knowledge.
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Components:

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3-(Trimethoxysilyl)propylamine	Reproductive toxicity: no evidence of reproductiontoxic properties
methanol	Reproductive toxicity: Not classified Teratogenicity: Not classified
Toluene	Reproductive toxicity: Suspected of damaging fertility or the unborn child. Suspected of damaging the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product:	no evidence for hazardous properties
Components:	
3-(Trimethoxysilyl)propylamine	no evidence for hazardous properties
methanol	Dermal Oral Inhalation - vapor, optic nerve, Central nervous system., Category 1, Causes damage to organs.
Toluene	Inhalation - vapor, Central nervous system., Category 3 with narcotic effects., May cause drowsiness or dizziness.

Specific Target Organ Toxicity - Repeated Exposure

Product:	no evidence for hazardous properties
Components:	
3-(Trimethoxysilyl)propylamine	no evidence for hazardous properties
Toluene	Inhalation - vapor, Central nervous system., Category 2, May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard

Product:	No evidence of aspiration toxicity
Components:	
3-(Trimethoxysilyl)propylamine	Not classified
methanol	Not classified
Toluene	May be fatal if swallowed and enters airways.

Information on health hazards

Other hazards

Product:	No data available.
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12. Ecological information

Ecotoxicity:

Toxicity to Aquatic Plants

Product:	EC 50, Desmodesmus subspicatus (green algae), 72 h, > 1,000 mg/l, OECD 201, (analogy)
Components:	
3-(Trimethoxysilyl)propylamine	EC 50, Desmodesmus subspicatus (green algae), 72 h, > 1,000 mg/l, OECD 201, (analogy)
methanol	EC 50, Selenastrum capricornutum (green algae), 96 h, Approximate,

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Toluene 22,000 mg/l, OECD 201, Literature
 EC 50, Chlamydomonas angulosa, 3 h, 134 mg/l, Biomass
 EC 50, Chlorella vulgaris (Fresh water algae), 3 h, 207 mg/l, Biomass

Toxicity to microorganisms

Product: EC 10, Pseudomonas putida, 5.75 h, 13 mg/l, DIN EN ISO 10712, (analogy)
 EC 50, Pseudomonas putida, 5.75 h, 43 mg/l, DIN EN ISO 10712, (analogy)

Components:

3- EC 10, Pseudomonas putida, 5.75 h, 13 mg/l, DIN EN ISO 10712, (analogy)
 (Trimethoxysilyl)propylami
 ne EC 50, Pseudomonas putida, 5.75 h, 43 mg/l, DIN EN ISO 10712, (analogy)
 methanol EC 50, activated sludge, 3 h, > 1,000 mg/l, OECD 209, Literature
 Toluene EC 50, Bacteria, 24 h, 84 mg/l

Toxicity to soil dwelling organisms
Components:

methanol LC 50, Earthworm, 48 h, > 1 mg/cm², mortality, OECD 207

Acute hazards to the aquatic environment:
Fish

Product: LC 50, Danio rerio, 96 h, > 934 mg/l OECD 203, (analogy)
 NOEC, Danio rerio, 96 h, 934 mg/l OECD 203, (analogy)

Components:

3- LC 50, Danio rerio, 96 h, > 934 mg/l OECD 203, (analogy)
 (Trimethoxysilyl)propylami
 ne NOEC, Danio rerio, 96 h, 934 mg/l OECD 203, (analogy)
 methanol LC 50, Bluegill Sunfish, 96 h, 15,400 mg/l US-EPA-method, Literature
 Toluene LC 50, Oncorhynchus kisutch, 96 h, 5.5 mg/l

Aquatic Invertebrates

Product: EC 50, Daphnia magna, 48 h, 331 mg/l OECD 202, (analogy)

Components:

3- EC 50, Daphnia magna, 48 h, 331 mg/l OECD 202, (analogy)
 (Trimethoxysilyl)propylami
 ne
 methanol EC 50, Daphnia magna, 96 h, 18,260 mg/l OECD 202, Literature
 Toluene EC 50, Ceriodaphnia dubia, 48 h, 3.78 mg/l US-EPA-method

Chronic hazards to the aquatic environment:
Fish
Components:

Toluene NOEC, Oncorhynchus kisutch, 40 d, 1.39 mg/l
 Lowest Observed Effect Concentration, Oncorhynchus kisutch, 40 d, 2.77 mg/l

Aquatic Invertebrates
Components:

Toluene EC 50, Ceriodaphnia dubia, 7 d, 3.23 mg/l, US-EPA-method
 NOEC, Ceriodaphnia dubia, 7 d, 0.74 mg/l, US-EPA-method
 Lowest Observed Effect Concentration, Ceriodaphnia dubia, 7 d, 2.76 mg/l, US-EPA-method

Persistence and Degradability

Product name: Dynasylan® AMMO

Biodegradation

Product:	67 %, 28 d, (DOC; Die Away test - 79/831/EEC part C.4-A), (analogy), Not readily degradable.
Components:	
3- (Trimethoxysilyl)propylami ne	67 %, 28 d, (DOC; Die Away test - 79/831/EEC part C.4-A), The product is not readily biodegradable. (analogy)
methanol	98 %, 28 d, (DOC; modif. OECD screening test / OECD 301 E), Own study The product is easily biodegradable., aerobic
Toluene	100 %, 14 d, OECD 301 C, The product is easily biodegradable., aerobic

BOD/COD Ratio

No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	not bioaccumulative
Components:	
3- (Trimethoxysilyl)propylami ne	not bioaccumulative
methanol	Leuciscus idus (Golden orfe), < 10, Measured, No significant bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product:	0.2, 20 °C, QSAR
Components:	
3- (Trimethoxysilyl)propylami ne	0.2, 20 °C, QSAR
methanol	-0.77
Toluene	2.73, 20 °C, Literature

Mobility in soil:

Product:	Adsorption on the floor: low.
Components:	
3- (Trimethoxysilyl)propylami ne	Adsorption on the floor: low.
methanol	soil - Log Koc: 1 calculated) Not expected to adsorb on soil.

Results of PBT and vPvB assessment:

No data available.

Other adverse effects:

Additional ecological information

Product: No ecotoxicological studies are available. The data we have at our disposal do not necessitate identification concerning environmental hazard.

Additional Information: No data available.

13. Disposal considerations

Product name: Dynasylan® AMMO

Disposal methods:	Waste must be disposed of in accordance with federal, state, provincial and local regulations. Since empty containers retain product residue, follow MSDS and label warnings even after container is emptied. Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container.
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**

UN/ID/NA number	: NA 1993
Proper shipping name	: Combustible liquid, n.o.s. (3-Aminopropyltrimethoxysilane)
Class	: CBL
Packing group	: III
Labels	: NONE
ERG Code	: 128
Marine pollutant	: no
Remarks	: Not regulated in packages 450 liter or less.

International Regulations**UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

Remarks : Not hazardous freight in air traffic (ICAO-TI / IATA-DGR).

IMDG-Code

Not regulated as a dangerous good

Remarks : Not classified as hazardous sea cargo (IMDG code)., FOR
USA ONLY: In packagings exceeding 450 L, this product must
be classified, placarded, marked and shipped as Combustible
Liquid to the USA.**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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).

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US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721 and 725, 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):

Reportable Quantity not reasonably exceeded.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), 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

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



WARNING: This product can expose you to chemicals including, methanol, Toluene 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.

Inventory Status:

Taiwan Chemical Substance Inventory:	On or in compliance with the inventory Pre-registration is requested for specific importer.
Australia Industrial Chem. Act (AIC):	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
US TSCA Inventory:	On or in compliance with the inventory

Product name: Dynasylan® AMMO
**Switzerland New Subs
 Notified/Registered:
 EINECS, ELINCS or NLP:**

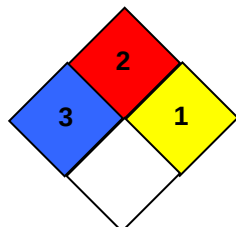
 Commercial Status: Active
 On or in compliance with the inventory
 On or in compliance with the inventory
 EU-REACH compliant for Evonik Operations GmbH
 and its affiliates as EU manufacturer/EU importer.

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

Health	3
Flammability	2
Physical Hazards	1
PERSONAL PROTECTION	B

B - Safety Glasses & Gloves

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

NFPA Hazard ID


Flammability
Health
Reactivity
Special hazard.

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

Version #: 2.0
Revision Date: 09/02/2025
Date of first report version: 05/20/2019

Abbreviations and acronyms:

ACGIH: US. ACGIH Threshold Limit Values, as amended
 NIOSH/GUIDE: US. NIOSH: Pocket Guide to Chemical Hazards, as amended
 OSHA_TRANS: US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
 OSHA/Z2: US. OSHA Table Z-2 (29 CFR 1910.1000), as amended
 ACGIH / STEL: Short Term Exposure Limit (STEL):
 ACGIH / TWA: Time Weighted Average (TWA):
 NIOSH/GUIDE / REL: Recommended exposure limit (REL):
 NIOSH/GUIDE / STEL: Short Term Exposure Limit (STEL):
 OSHA_TRANS / PEL: Permissible exposure limit:
 OSHA/Z2 / Ceiling: Ceiling Limit Value:
 OSHA/Z2 / TWA: Time Weighted Average (TWA):
 OSHA/Z2 / MAX. CONC: Maximum concentration:

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

Product name: Dynasylan® AMMO

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; TECL - 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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