1. **Identification**

1.1. **Product identifier**

Trade name: Dynasylan® SIVO 203

1.2. **Recommended use of the chemical and restrictions on use**

Relevant applications identified:
- For industrial use
- Coupling agent
- Crosslinking agents
- Surface modifier

1.3. **Details of the supplier of the safety data sheet**

Company: Evonik Corporation USA
299 Jefferson Road
Parsippany, NJ 07054-0677
USA

Telephone: 973-929-8000
Telefax: 973-929-8040
Email address: Product-Regulatory-Services@Evonik.com

1.4. **24 HOUR EMERGENCY TELEPHONE NUMBERS:**

**CHEMTREC - US & CANADA:**
800-424-9300

**CHEMTREC MEXICO:**
01-800-681-9531

**CHEMTREC INTERNATIONAL:**
+1 703-527-3887 (collect calls accepted)

Product Regulatory Services: 973-929-8060

2. **Hazards identification**

2.1. **Classification of the substance or mixture**

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

- Flammable liquids: Category 4, H227
- Skin irritation: Category 2, H315
- Serious eye damage: Category 1, H318

2.2. **Label elements**

Statutory basis: Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Symbol(s): 

[Chemical hazard symbol]
**Signal word**
Danger

**Hazard statement**
H227 - Combustible liquid.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.

**Precautionary statement**: Prevention
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P264 - Wash skin thoroughly after handling.
P280 - Wear protective gloves/ eye protection/ face protection.

**Precautionary statement**: Reaction
P302 + P352 - IF ON SKIN: Wash with plenty of water/ soap.
P305 + P351 + P338 + P310 - 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 or doctor/ physician.
P332 + P313 - If skin irritation occurs: Get medical advice/ attention.
P362 - Take off contaminated clothing and wash before reuse.
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Precautionary statement**: Storage
P403 + P235 - Store in a well-ventilated place. Keep cool.

**Precautionary statement**: Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. **Other hazards**
None known

3. **Composition/information on ingredients**

**Chemical nature**
Silane preparation

<table>
<thead>
<tr>
<th>3-(Trimethoxysilyl)propylamine</th>
<th>&gt;= 30% - &lt;= 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>13822-56-5</td>
</tr>
</tbody>
</table>

- **Skin irritation**
- **Serious eye damage**

<table>
<thead>
<tr>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
</tr>
</tbody>
</table>

**Other information**
This material is classified as hazardous under OSHA regulations.

4. **First aid measures**

4.1. **Description of first aid measures**

**General advice**
Take off all contaminated clothing immediately.

**Inhalation**
If aerosol or mists are formed:
Move victims into 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.

4.2. 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.

4.3. Indication of any immediate medical attention and special treatment needed
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
5.1. Extinguishing media
Suitable extinguishing media: Use water spray or fog, foam, dry chemical or CO2.
Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture
Hazardous fumes in fires, specific to the product:
nitrogen oxides (NOx)Combustible liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

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

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.

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

6.3. **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).

**Additional advice**

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

### 7. Handling and storage

#### 7.1. Precautions for safe handling

- Wear personal protective equipment; see section 8. Keep away from heat, sparks, flames and other sources of ignition. Keep container tightly closed. Use only with adequate ventilation.
- Vapors may spread long distances and travel to areas away from the work site before igniting or flashing back to the vapor source.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Advice on protection against fire and explosion**

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 MSDS/label precautions even after container is emptied because it may retain product residues.

**Storage**

- Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture.

### 8. Exposure controls/personal protection

#### 8.1. Control parameters

**Other information**

- No substance-specific limiting value being known.

#### 8.2. Exposure controls

**Engineering measures**

- Use this product preferably in a closed system, or use process enclosures, local exhaust ventilation or other engineering controls to minimize airborne exposure.

**Personal protective equipment**
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.

Hand protection

Glove material: for example, butyl-rubber
Material thickness: 0.5 mm
Breakthrough time: >= 480 min

Glove material: for example, Fluorinated rubber (Viton)
Material thickness: 0.4 mm
Breakthrough time: >= 480 min

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.

Selection of protective gloves to meet the requirements of specific workplaces. 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.

Eye protection

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

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.

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.

Wash contaminated clothing before re-use.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>yellowish</td>
</tr>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>amine-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>not determined</td>
</tr>
<tr>
<td>pH</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>66 °C</td>
</tr>
<tr>
<td>Method</td>
<td>DIN EN ISO 2719 (Pensky-Martens, Closed Cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
</tbody>
</table>
Flammability (solid, gas) no data available
Lower explosion limit not determined
Upper explosion limit not determined
Vapour pressure not determined
Density ca. 1.03 g/cm³ (20 °C)
   Method: DIN 51757
Water solubility not miscible
   decomposition by hydrolysis
Partition coefficient: n-octanol/water not determined
Autoignition temperature not determined
Thermal decomposition not determined
Viscosity, dynamic ca. 5 mPa.s (20 °C)
   Method: DIN 53 015

9.2. Other information
Explosiveness Vapors can form explosive mixtures with air.

10. Stability and reactivity
10.1. Reactivity
   No dangerous reaction known under conditions of normal use.
10.2. Chemical stability
   Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions
   Possibility of hazardous Exothermic reaction with: acids reactions
10.4. Conditions to avoid
   Keep away from heat and sources of ignition.
   Vapours can form explosive mixtures with air.
   Protect from moisture.
10.5. Incompatible materials
   Acids
10.6. Hazardous decomposition products
   Methanol in case of hydrolysis.

11. Toxicological information
11.1. Information on toxicological effects
Further information

No results of animal experiments with the product available.

Toxicological information on components
3-(Trimethoxysilyl)propylamine

Acute oral toxicity
LD50 Rat: > 2000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity
No data available

Acute dermal toxicity
LD50 Rabbit: > 10000 mg/kg
Method: OECD Test Guideline 402

Skin irritation
Rabbit
SKin irritation
Method: OECD Test Guideline 404

Eye irritation
Rabbit
Risk of serious damage to eyes.
Method: OECD Test Guideline 405

Sensitization
maximization test Guinea pig: Does not cause skin sensitisation.
Method: OECD Test Guideline 406

Repeated dose toxicity
Oral Rat(male/female) / 90-day
NOAEL: 200 mg/kg
LOAEL: 600 mg/kg
Method: OECD TG 408
Test substance: Structurally similar substance

Assessment of STOT single exposure
no evidence for hazardous properties

Assessment of STOT repeat exposure
no evidence for hazardous properties

Risk of aspiration toxicity
No evidence of aspiration toxicity

Genotoxicity in vitro
Ames test S. typhimurium / E. coli negative
Method: OECD TG 471

gene mutation Chinese hamster (CHO K1 -cells) negative
Method: OECD TG 476
Test substance: Structurally similar substance

chromosomal aberration Chinese hamster (V 79 -cells) negative
Method: OECD TG 473
Test substance: Structurally similar substance

Genotoxicity in vivo
Micronucleus test Mouse intraperitoneal negative
Method: OECD TG 474
Test substance: Structurally similar substance
Carcinogenicity
No evidence that cancer may be caused.

Toxicity to reproduction
Oral Rat (male/female)
Number of exposures: 90 day
NOAEL (No Observed Adverse Effect Level) of parents:
600 mg/kg
Method: OECD TG 408
Test substance: Structurally similar substance

Teratogenicity
Oral Rat
NOAEL (No Observed Adverse Effect Level) teratogenesis:
600 mg/kg
NOAEL maternal (No Observed Adverse Effect Level):
200 mg/kg
Method: OECD TG 414
Test substance: Structurally similar substance

12. Ecological information
12.1. Toxicity
12.2. Persistence and degradability
   Biodegradability No data available

12.3. Bioaccumulative potential
   Bioaccumulation No data available

12.4. Mobility in soil
   Mobility No data available

12.5. Other adverse effects

13. Disposal considerations
13.1. Waste treatment methods
   Product
   Waste must be disposed of in accordance with federal, provincial, state and local regulations. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH.

   Uncleaned packaging
   Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information
### D.O.T. Road/Rail

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN 1993</th>
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<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>Combustible liquid, n.o.s. (3-Aminopropyltrimethoxysilane)</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>C</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>14.5. Environmental hazards (Marine pollutant):</td>
<td>--</td>
</tr>
<tr>
<td>14.6. Special precautions for user:</td>
<td>Yes</td>
</tr>
<tr>
<td>ROAD: Not regulated in packages 450 liter or less. (CFR)</td>
<td></td>
</tr>
<tr>
<td>RAIL: Not regulated in packages 450 liter or less. (CFR)</td>
<td></td>
</tr>
</tbody>
</table>

### Air transport ICAO-TI/IATA-DGR

Not dangerous according to transport regulations.

| 14.1. UN number: | -- |
| 14.2. UN proper shipping name: | -- |
| 14.3. Transport hazard class(es): | -- |
| 14.4. Packing group: | -- |
| 14.5. Environmental hazards: | -- |
| 14.6. Special precautions for user: | Yes |
| IATA-C: Not hazardous freight in air traffic (ICAO-TI / IATA-DGR). |
| IATA-P: Not hazardous freight in air traffic (ICAO-TI / IATA-DGR). |

### Sea transport IMDG-Code/GGVSee (Germany)

Not dangerous according to transport regulations.

| 14.1. UN number: | -- |
| 14.2. UN proper shipping name: | -- |
| 14.3. Transport hazard class(es): | -- |
| 14.4. Packing group: | -- |
| 14.5. Environmental hazards (Marine pollutant): | -- |
| 14.6. Special precautions for user: | Yes |
| 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. |

### 15. Regulatory information

**US Federal Regulations**

**OSHA**

If listed below, chemical specific standards apply to the product or components:

- None listed
Clean Air Act Section (112)
If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

CERCLA Reportable Quantities
If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

SARA Title III Section 311/312 Hazard Categories
The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Fire Hazard

SARA Title III Section 313 Reportable Substances
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

Toxic Substances Control Act (TSCA)
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

State Regulations

California Proposition 65
A warning under the California Drinking Water Act is required only if listed below:

- None listed

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

Health : 2
Flammability : 2
Physical Hazard : 1

NFPA Ratings

Health : 2
SAFETY DATA SHEET
Dynasylan® SIVO 203

Material no. Specification Order Number
154685

Version Revision date Print Date Page
3.0 / US 05/26/2015 06/25/2015 11 / 13

16. Other information

Further information

Revision date 05/26/2015

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

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<table>
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<tr>
<th>Material no.</th>
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<tbody>
<tr>
<td>Specification</td>
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<tr>
<td>Order Number</td>
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<td>06/25/2015</td>
</tr>
<tr>
<td></td>
<td>Page</td>
<td>13 / 13</td>
</tr>
</tbody>
</table>

voc: volatile organic compounds
WHMIS: Workplace Hazardous Materials Information System
WHO: World Health Organization