1. Identification

1.1. Product identifier

Trade name: Dynasylan® MEMO
Chemical Name: 3-Trimethoxysilylpropyl methacrylate
CAS-No.: 2530-85-0

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

Classification according to Regulation 29CFR 1910.1200
Remarks: Not a hazardous substance or mixture.

2.2. Label elements

Statutory basis: Classification according to Regulation 29CFR 1910.1200
Remarks: Not a hazardous substance or mixture.

2.3. Other hazards

None known

3. Composition/information on ingredients
3. Trimethoxysilylpropyl methacrylate <= 100%

**CAS-No.** 2530-85-0

**Remarks** Not a hazardous substance or mixture.

4. **First aid measures**

4.1. **Description of first aid measures**

**Inhalation**
If aerosol or mists are inhaled, take affected persons out into the fresh air. In case of persistent discomfort or other symptoms, consult a physician immediately.

**Skin contact**
Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Obtain medical attention immediately if symptoms occur. Wash clothing before reuse.

**Eye contact**
In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

**Ingestion**
If accidentally swallowed, rinse mouth thoroughly with water and afterwards, drink plenty of water. In case of discomfort, obtain medical attention.

4.2. **Most important symptoms and effects, both acute and delayed**

**Symptoms**
None known

4.3. **Indication of any immediate medical attention and special treatment needed**

After absorbing large amounts of substance:
Administration of activated charcoal.
Acceleration of gastrointestinal passage.

5. **Fire-fighting measures**

5.1. **Extinguishing media**

Suitable extinguishing media: water spray, foam, Carbon dioxide (CO2), dry powder

Unsuitable extinguishing media: High volume water jet

5.2. **Special hazards arising from the substance or mixture**

Standard procedure for chemical fires.

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**
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.

7. **Handling and storage**

7.1. **Precautions for safe handling**
Provide good ventilation or extraction.

7.2. **Conditions for safe storage, including any incompatibilities**
**Advice on protection against fire and explosion**
Normal measures for preventive fire protection.

**Storage**
Keep containers tightly closed in a cool, well-ventilated place.
Protect from heat and exposure to direct sunlight
Protect from moisture.

8. **Exposure controls/personal protection**

8.1. **Control parameters**
**Other information**
None known

**DNEL/DMEL values**

<table>
<thead>
<tr>
<th>Remarks</th>
<th>not necessary (see chapter 15)</th>
</tr>
</thead>
</table>

**PNEC values**

<table>
<thead>
<tr>
<th>Remarks</th>
<th>not necessary (see chapter 15)</th>
</tr>
</thead>
</table>

8.2. **Exposure controls**
**Engineering measures**
Application, processing: Provide good ventilation or extraction.

**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**

<table>
<thead>
<tr>
<th>Glove material</th>
<th>for example, butyl-rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material thickness</td>
<td>0.5 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>&gt;= 480 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glove material</th>
<th>for example, Fluorinated rubber (Viton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material thickness</td>
<td>0.5 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>&gt;= 120 min</td>
</tr>
</tbody>
</table>

US-GHS(R11/011) / 13/04/2017 22:42
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. Suitability for specific workplaces should be clarified with protective glove manufacturers. Use impermeable gloves.

**Eye protection**
Use chemical splash goggles or face shield.

**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 / aerosol. Remove contaminated or saturated clothing.

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9. **Physical and chemical properties**

9.1. **Information on basic physical and chemical properties**

- **Physical state**: liquid (20 °C) (1013 hPa)
- **Colour**: colourless to yellowish
- **Form**: liquid
- **Odour**: slightly aromatic
- **Odour Threshold**: not determined
- **pH**: not determined
- **Melting point/range**: < -20 °C
- **Boiling point/range**: 255 °C (1013 hPa)
  - **Method**: DIN 51 356
- **Flash point**: 110 °C
  - **Method**: DIN EN ISO 2719 (Pensky-Martens, Closed Cup)
- **Evaporation rate**: not determined
- **Lower explosion limit**: 0.9 %(V)
- **Upper explosion limit**: 5.4 %(V)
- **Vapour pressure**: < 0.1 hPa (20 °C)
- **Vapour density**: not determined
- **Density**: 1.04 g/cm³ (20 °C)
  - **Method**: DIN 51757
- **Water solubility**: not miscible
  - **Decomposition by hydrolysis**
Partition coefficient: n-octanol/water  
log Pow: 2.1  (21 °C)  
Method: OECD TG 107

Autoignition temperature  not determined

Thermal decomposition  not determined

Viscosity, dynamic 2.8 mPa.s  (20 °C)  
Method: DIN 53 015

**9.2. Other information**

Explosiveness  not explosive

**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**
Exothermic reaction with: peroxides

**10.4. Conditions to avoid**
Keep away from direct sunlight.
Protect from moisture.

**10.5. Incompatible materials**
Peroxides, water

**10.6. Hazardous decomposition products**
Methanol in case of hydrolysis.

**11. Toxicological information**

**11.1. Information on toxicological effects**

- **Acute oral toxicity**
  LD50 Rat: > 2000 mg/kg  
  Method: OECD TG 423  
  Assessment: The substance or mixture has no acute oral toxicity

- **Acute inhalation toxicity**
  LC0 Rat: > 2.28 mg/l / 4 h / Aerosol  
  Method: OECD Test Guideline 403  
  Assessment: The substance or mixture has no acute inhalation toxicity maximum concentration in the test: no animals died.

- **Acute dermal toxicity**
  LC50 Rat: > 2000 mg/kg  
  Method: OECD Test Guideline 402  
  Assessment: The substance or mixture has no acute dermal toxicity

- **Skin irritation**
  Rabbit  
  No skin irritation
SAFETY DATA SHEET
Dynasylan® MEMO

Material no. Specification Order Number
121736

Version Revision date Print Date Page
4.2 / US 12/16/2016 04/13/2017 6 / 10

Method: OECD Test Guideline 404

Eye irritation
Rabbit
No eye irritation
Method: OECD Test Guideline 405

Sensitization
Maximization test Guinea pig: Does not cause skin sensitisation.
Method: OECD Test Guideline 406
Test substance: Structurally similar substance

Assessment of STOT single exposure
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Assessment of STOT repeat exposure
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Risk of aspiration toxicity
No evidence of aspiration toxicity

Genotoxicity in vitro
Ames test Salmonella typhimurium
negative
Method: OECD TG 471

chromosomal aberration Chinese hamster (CHO K1 -cells)
positive
Method: OECD TG 473

Genetic mutation in mammal cells TK +/- mouse lymphoma cell (L5178Y)
negative
Method: OECD TG 476

Genotoxicity in vivo
chromosomal aberration Mouse intraperitoneal (i.p.)
negative
Method: OECD TG 474

Carcinogenicity
No data available

Toxicity to reproduction
Prenatal development toxicity study Oral Rat
NOAEL F1: > 5200 mg/kg
Method: OECD TG 414

12. Ecological information

12.1. Toxicity

Toxicity to fish
LC50 Brachydanio rerio: > 1042 mg/l / 96 h
Method: OECD 203

LC0 Brachydanio rerio: 1042 mg/l / 96 h
Method: OECD TG 203

Toxicity in aquatic invertebrates
EC50 Daphnia magna: > 876 mg/l / 48 h
Method: OECD TG 202

Toxicity to algae
EC50 Desmodesmus subspicatus (green algae): > 536 mg/l / 72 h
Method: OECD TG 201
SAFETY DATA SHEET
Dynasylan® MEMO

Material no. 121736
Specification
Order Number

Version 4.2 / US
Revision date 12/16/2016
Print Date 04/13/2017
Page 7 / 10

NOEC Desmodesmus subspicatus (green algae): 322 mg/l / 72 h
Method: OECD TG 201

Toxicity to bacteria
EC 10 Pseudomonas putida: 2200 mg/l / 16 h
Method: DIN 38412 part 8

NOEC local activated sludge: 1000 mg/l / 3 h
Method: OECD TG 209

Toxicity in other terrestrial non-mammals
LC50 Eisenia fetida foetida: > 1000 mg/kg / 14 d
Method: EC 88/302

12.2. Persistence and degradability

Biodegradability
Exposure time: 28 d
Result: 74 % Readily biodegradable.
Method: Directive 92/69/EEC C.4-D

12.3. Bioaccumulative potential

Bioaccumulation
not bioaccumulative

12.4. Mobility in soil

Mobility
Adsorption on the floor: low.

12.5. Other adverse effects

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

13. Disposal considerations

13.1. Waste treatment methods

Product
Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method.

Uncleaned packaging
Packaging, that can not be reused after cleaning must be disposed or recycled in accordance with all federal, national and local regulations.
Incorrect disposal or reuse of this container is illegal and can be dangerous.
Other countries: observe the national regulations.

14. Transport information

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 dangerous according to transport regulations.
   Protect against heat. As cool as possible. Minimum distance to heat sources under deck (e.g. heatable fuel tanks): 1 container position.

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:
   • No SARA Hazards

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

The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in section 2 and 15 of this MSDS.

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

<table>
<thead>
<tr>
<th>Health</th>
<th>1</th>
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<tbody>
<tr>
<td>Flammability</td>
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<tr>
<td>Physical Hazard</td>
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</table>

NFPA Ratings

<table>
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<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity</td>
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16. Other information

Further information

Revision date 12/16/2016

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

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Legend

<table>
<thead>
<tr>
<th>ACC</th>
<th>American Chemistry Council</th>
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<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>ACS</td>
<td>Advisory Committee on Sustainability</td>
</tr>
<tr>
<td>ADI</td>
<td>Acceptable Daily Intake</td>
</tr>
<tr>
<td>ASTM</td>
<td>American Society for Testing and Materials</td>
</tr>
</tbody>
</table>