DYMAX Oligomers • Adhesives • Coatings • Dispensing • Light-Curing Systems

# Safety Data Sheet

**according to HazCom 2012**

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**SDS # : 9481-E**

## 9481-E

**Issue Date** 2019-03-14 **Revision Date** 2019-03-14 **Version** 4.02

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** 9481-E

**Other means of identification**

**Product Code** 9481-E
**Synonyms** Not applicable

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

**Identified uses** Adhesives.
**Uses advised against** No information available

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

**Manufacturer Address** Dymax Corporation
318 Industrial Lane
Torrington, CT 06790
Tel: 860-482-1010
Fax: 860-496-0608

**Information department:** North American Safety Department @ 1-860-482-1010

**Emergency Telephone** North America: Chemtrec @ 1-800-424-9300 (24hrs)

## 2. HAZARDS IDENTIFICATION

**Emergency Overview**

**Physical state** liquid
**Odor** Characteristic
**Color** light amber
**Appearance** transparent

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitization | Category 1B |
| Reproductive toxicity | Category 1B |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 2 |

**Target Organ Effects**
Blood, Peripheral Nervous System (PNS).

**GHS Label elements, including precautionary statements**

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**Signal word** Danger

**Hazard statements**
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**
Do not handle until all safety precautions have been read and understood
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

**Precautionary Statements - Storage**
Store in a well-ventilated place. Keep container tightly closed

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

**Other Information**

Testing for acute and chronic aquatic effects determined no environmental classification is required.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Chemical Name | CAS No. | Weight-% | Trade Secret | Classification (Reg. 1272/2008) |
|---|---|---|---|---|
| Urethane Acrylate Resin | Proprietary | 40-69 | * | Skin Irrit. 3 (H316)<br>Skin Sens. 1B (H317)<br>Aquatic Acute 3 (H402)<br>Aquatic Chronic 3 (H412) |
| Isobornyl Acrylate | 5888-33-5 | 25-39 | * | Skin Irrit. 2 (H315)<br>Eye Irrit. 2A (H319)<br>Skin Sens. 1 (H317)<br>STOT SE 3 (H335)<br>Aquatic Chronic 1 (H411) |
| Tetrahydrofurfuryl methacrylate | 2455-24-5 | 10-24 | * | Flam. Liq. 4 (H227)<br>Skin Sens. 1 (H317)<br>Repr. 1B (H360)<br>Aquatic Chronic 3 (H412) |

| | | | | |
|---|---|---|---|---|
| Photoinitiator | Proprietary | 1-3 | * | Acute Tox. 4 (H302)<br>Aquatic Chronic 2 (H411) |
| Phenol, isopropylated, phosphate | 68937-41-7 | 1-3 | * | STOT RE 2 (H373)<br>Repr. 2 (H361fd)<br>Aquatic Chronic 2 (H411) |
| Visible Photoinitiator | Proprietary | 1-3 | * | Repr. 2 (H361f)<br>Aquatic Chronic 2 (H411) |
| Photoinitator | Proprietary | 1-3 | * | Skin Irrit. 2 (H315)<br>Eye Irrit. 2A (H319)<br>STOT SE 3 (H335) |
| Silane Coupling Agent | Proprietary | 1-3 | * | Skin Sens. 1 (H317) |

Remaining ingredients are not considered hazardous in accordance with the Globally Harmonized System (GHS)

*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

**First aid measures**

**General advice**
IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

**Eye contact**
Flush eyes with water for at least 15 minutes. Get medical attention if eye irritation develops or persists.

**Skin Contact**
Wash off immediately with plenty of water, Get medical attention if irritation develops and persists.

**Inhalation**
Remove to fresh air, If symptoms persist, call a physician.

**Ingestion**
If swallowed, Rinse mouth, Get medical attention.

**Self-protection of the first aider**
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

**Main Symptoms**
No information available.

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

**Note to physicians**
Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Use CO2, dry chemical, or foam.

**Unsuitable extinguishing media**
Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

**Hazardous combustion products**
Hazardous decomposition products due to incomplete combustion.

**Explosion data**
**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**
Ensure adequate ventilation, Wear protective gloves/clothing and eye/face protection.

**Environmental precautions**

**Environmental precautions**
Do not allow material to contaminate ground water system, Try to prevent the material from entering drains or water courses, See Section 12 for additional Ecological Information, Local authorities should be advised if significant spillages cannot be contained.

**Other Information**
See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment**
Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**
Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation
Protect from light

**Conditions for safe storage, including any incompatibilities**

**Technical measures and storage conditions**
Keep container tightly closed in a dry and well-ventilated place
Protect from light

**Incompatible products**
Amines, Strong oxidizing agents, Strong acids, Strong bases, Oxygen scavengers, Thiosulfates.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**
**Exposure Guidelines**
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls**

**Engineering Measures**
Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Safety glasses with side-shields If splashes are likely to occur, wear: Goggles

**Skin and body protection**
Wear protective gloves and protective clothing.

**Respiratory protection**
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required, Do not breathe vapors, mist or gas.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice, When using do not eat, drink or smoke, Wear suitable gloves and eye/face protection, Wash hands before breaks and at the end of workday, Contaminated work clothing should not be allowed out of the workplace, Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical state** | liquid | | |
| **Appearance** | transparent | **Odor** | Characteristic |
| **Color** | light amber | **Odor threshold** | No information available |

| **Property** | **Values** | **Remarks / • Method** |
|---|---|---|
| **pH** | | No information available |
| **Melting point / freezing point** | | No information available |
| **Boiling point / boiling range** | | No information available |
| **Flash point** | 108 °C / 226 °F | |
| **Evaporation rate** | | No information available |
| **Flammability (solid, gas)** | | No information available |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | - | |
| **Lower flammability limit** | - | |
| **Vapor pressure** | | No information available |
| **Vapor density** | | No information available |
| **Specific Gravity** | | No information available |
| **Water Solubility** | Practically insoluble | |
| **Solubility in other solvents** | | No information available |
| **Partition coefficient: n-octanol/water** | | No information available |
| **Autoignition temperature** | | No information available |
| **Decomposition temperature** | | No information available |
| **Dynamic viscosity** | 125 cP | |
| **Kinematic viscosity** | | No information available |
| **Explosive properties** | No information available | |
| **Oxidizing properties** | No information available | |

**Other Information**

| | |
|---|---|
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC Content (%)** | No information available |

| | |
|---|---|
| **Density** | No information available |
| **Bulk density** | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**
No information available

**Chemical stability**
Stable under normal conditions.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to avoid**
Protect from light. Heat, flames and sparks.

**Incompatible materials**
Amines, Strong oxidizing agents, Strong acids, Strong bases, Oxygen scavengers.

**Hazardous Decomposition Products**
No decomposition if stored and applied as directed.

## 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

**Acute toxicity**

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | There is no data for this product |
| **Eye contact** | There is no data for this product |
| **Skin Contact** | There is no data for this product |
| **Ingestion** | There is no data for this product |
| **Symptoms** | No information available. |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

| | |
|---|---|
| **Sensitization** | May cause sensitization of susceptible persons. |
| **Mutagenic effects** | No information available. |
| **Reproductive toxicity** | No information available. |
| **Carcinogenicity** | Contains no ingredients above reportable quantities listed as a carcinogen. |
| **STOT - single exposure** | |
| **Target Organ Effects** | Blood, Peripheral Nervous System (PNS). |
| **Aspiration hazard** | No information available. |
| **Other adverse effects** | No information available. |
| **Chronic toxicity** | Repeated contact may cause allergic reactions in very susceptible persons<br>Avoid repeated exposure |

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Contains a known or suspected reproductive toxin

**Numerical measures of toxicity - Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document .**

| | |
|---|---|
| **ATEmix (oral)** | 16433 mg/kg |
| **ATEmix (dermal)** | 15959 mg/kg |
| **ATEmix (inhalation-dust/mist)** | 25.2 mg/l |
| **ATEmix (inhalation-vapor)** | 10000 mg/l |

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Urethane Acrylate Resin | >5000 mg/kg ( Rat ) | | |
| Isobornyl Acrylate | = 4890 mg/kg ( Rat ) | > 5 g/kg ( Rabbit ) | |
| Tetrahydrofurfuryl methacrylate | LD50 4033 mg/kg (Rat) | | |
| Photoinitiator | = 1694 mg/kg ( Rat ) | | |
| Phenol, isopropylated, phosphate | > 5000 mg/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | > 200 mg/L ( Rat ) 1 h |
| Photoinitator | 5000 mg/kg ( Rat ) | > 1160 mg/kg ( Rat ) | 10.6 mg/L (Rat ) 4 h |
| Silane Coupling Agent | > 5000 mg/kg (Rat) | | |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Acute aquatic toxicity**

**Product Information**
Testing for acute and chronic aquatic effects determined no environmental classification is required.

**Component Information**

| Chemical Name | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates | Toxicity to algae |
|---|---|---|---|
| Urethane Acrylate Resin | LC50 > 100 mg/L 96 h (Danio rerio) | EC50 = 58 mg/L 48 h (Daphnia magna) | ErC 50 > 100 mg/L 72 h (Scenedesmus Subspicatus) |
| Isobornyl Acrylate | LC50 = 1.8 mg/L 96 h (Danio rerio) | EC 50 = 1.1 mg/L 48 h (Daphnia magna) | ErC 50 = 2.7 mg/L 96 h (Pseudokirchneriella subcapitata) |
| Tetrahydrofurfuryl methacrylate | LC50 31.1 - 38.8 mg/L 96 h (Pimephales promela) | - | - |
| Phenol, isopropylated, phosphate | LC50= 1.15 mg/L 96 h (Oncorhynchus mykiss) LC50= 1000 mg/L 96 h (Brachydanio rerio) LC50= 10.8 mg/L 96 h (Pimephales promelas) | EC50 = 14 mg/L 48 h (Daphnia magna) | - |
| Silane Coupling Agent | LC50 > 1024,00 mg/l 96 h (Brachydanio rerio) | EC50 > 876,00 mg/l 48 h (Daphnia magna) | EC50 > 536,00 mg/l 72 h (Scenedesmus subspicatus) |

**Persistence and degradability** No information available.

**Bioaccumulation**

| Chemical Name | log Pow |
|---|---|
| Isobornyl Acrylate | 4.52 |
| Photoinitator | 2.5 |

**Mobility in soil**
No product level data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste Disposal Methods**
Dispose of waste in compliance with local and national regulations.

**Contaminated packaging**
Dispose of in accordance with local regulations.

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **DOT** | Not regulated |
| **ICAO/IATA** | Not regulated |
| **IMDG/IMO** | Not regulated |

## 15. REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | Complies |
| **AICS** | Low Volume Exemption (LVE) |
| **DSL/NDSL** | Complies |
| **EINECS/ELINCS** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECI** | Complies |
| **NZIoC** | Not listed |
| **PICCS** | Not listed |
| **TCSI** | Complies |

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**AICS** - Australian Inventory of Chemical Substances
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**TCSI** - Taiwan Chemical Substance Inventory

**US Federal Regulations**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute health hazard** | Yes |

| | |
|---|---|
| **Chronic Health Hazard** | No |
| **Fire hazard** | No |
| **Sudden release of pressure hazard** | No |
| **Reactive Hazard** | No |

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## US State Regulations

### U.S. State Right-to-Know Regulations

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| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Hexamethylene diisocyanate | X | X | |
| Methyl alcohol | X | X | X |
| Xylene | X | X | X |
| Toluene | X | X | X |

**California Proposition 65**
This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

**WARNING!**

| Chemical Name | California Proposition 65 |
|---|---|
| Methyl alcohol<br>67-56-1 ( 0.019 % ) | Developmental |
| Toluene<br>108-88-3 ( 0.0005 % ) | Developmental |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Prepared By** | EHS Department |
| **Revision Date** | 2019-03-14 |
| **Revision Note** | No information available |

**Disclaimer**
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**end**