

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: HazCom 2012

4-20418

Issuing Date 18-Nov-2021

Revision date 11-Nov-2021

Revision Number 30

1. Identification

Product identifier**Product Name** 4-20418Other means of identificationRecommended use of the chemical and restrictions on use**Recommended use** Adhesives.**Restrictions on use** No information available.Details of the supplier of the safety data sheet**Manufacturer**Dymax Corporation
318 Industrial Lane
Torrington, CT 06790
Tel: 860-482-1010
Fax: 860-496-0608**E-mail address** Product_Regulatory@dymax.comEmergency telephone number**24 Hour Emergency Phone Number** Chemtrec 1-800-424-9300

2. Hazard(s) identification

Emergency Overview**Appearance** transparent **Physical state** Liquid **Odor** CharacteristicClassification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 2

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements**Signal word** Danger**Hazard statements**

Harmful if swallowed.
 Causes skin irritation.
 Causes serious eye damage.
 May cause an allergic skin reaction.
 Suspected of damaging fertility or the unborn child.



Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wash face, hands and any exposed skin thoroughly after handling.
 Avoid breathing dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response

Get medical advice/attention if you feel unwell.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF ON SKIN: Wash with plenty of soap and water.
 Take off contaminated clothing and wash before reuse.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

Testing for acute and chronic aquatic effects determined no environmental classification is required. OECD Test No. 202: Daphnia sp., Acute Immobilization Test.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Trade secret	Weight-%
N,N-Dimethylacrylamide	2680-03-7	*	10-24
Isobornyl Methacrylate	7534-94-3	*	10-24
Methacrylate Ester Monomer	Proprietary	*	5-9
Acrylate monomer	Proprietary	*	3-<5
Acrylic Acid	79-10-7	*	1-<3
Photoinitiator	Proprietary	*	1-<3
Visible Photoinitiator	Proprietary	*	<1

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Silane Coupling Agent	Proprietary	*	<1
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*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Eye contact

Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Self-protection of the first aider

Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry chemical or CO₂.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous combustion products

Carbon dioxide (CO₂). Carbon monoxide. Hydrocarbons. Nitrogen oxides (NO_x).

Explosion data

Sensitivity to mechanical impact: None.
Sensitivity to static discharge: None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information

Refer to protective measures listed in Sections 7 and 8.

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). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used**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**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Protect from light.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acrylic Acid	TWA: 2 ppm S*	(vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) S*	TWA: 2 ppm TWA: 6 mg/m ³

Appropriate engineering controls

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment**General hygiene considerations**

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Hand protection

Wear suitable gloves. Nitrile rubber, Butyl rubber.

Eye/face protection

Tight sealing safety goggles.

Skin and body protection

Wear suitable protective clothing. Long sleeved 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.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:	Liquid
Appearance:	transparent
Color:	colorless
Odor:	Characteristic
Odor threshold:	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH:	No data available	No information available
pH (as aqueous solution):	No data available	Not applicable
Melting point / freezing point:	No data available	No information available
Boiling point / boiling range:	No data available	No information available
Flash point:	101 °C / 214 °F	Pensky-Martens Closed Cup (PMCC)
Evaporation rate:	No data available	No information available
Flammability (solid, gas):	No data available	Not applicable
Flammability Limit in Air		
Upper flammability or explosive limits:	No data available	No information available
Lower flammability or explosive limits:	No data available	No information available
Vapor pressure:	No data available	No information available
Relative vapor density:	No data available	No information available
Relative density:	No data available	No information available
Water solubility:	partially soluble	No information available
Solubility(ies):	No data available	No information available
Partition coefficient:	No data available	No information available
Autoignition temperature:	438 °C / 820.4 °F	No information available
Decomposition temperature:	No data available	No information available
Kinematic viscosity:	No data available	No information available
Dynamic viscosity:	No data available cP	No information available

Other information

Explosive properties:	No information available
Oxidizing properties:	No information available
Softening point:	No information available
Molecular weight:	No information available
VOC Content (%):	No information available
Liquid 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.

Hazardous polymerization

None under normal processing.

Conditions to avoid

Protect from light. Heat, flames and sparks.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

None under normal use conditions.

11. Toxicological information**Information on likely routes of exposure****Product Information****Inhalation:**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact:

Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact:

Specific test data for the substance or mixture is not available. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.

Ingestion:

Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

Acute toxicity

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

ATEmix (oral):	1,454.60 mg/kg
ATEmix (dermal):	3,381.30 mg/kg
ATEmix (inhalation-dust/mist):	138.70 mg/l

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Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

Component Information:

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylacrylamide	= 316 mg/kg (Rat)	907mg/kg (Rabbit)	> 776 ppm (Rat) 1 h
Methacrylate Ester Monomer	= 5050 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Acrylate monomer	-	1000 - 2000 mg/kg (Rabbit) > 2000 mg/kg (Rabbit)	-
Acrylic Acid	= 193 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 11.1 mg/L (Rat) 1 h = 3.6 mg/L (Rat) 4 h
Photoinitiator	= 1694 mg/kg (Rat)	= 6929 mg/kg (Rat)	-
Visible Photoinitiator	-	> 2000 mg/kg (Rat)	-
Silane Coupling Agent	= 23.5 g/kg (Rat)	> 2000 mg/kg (Rat)	> 2.28 mg/L (Rat) 6 h

Symptoms related to the physical, chemical and toxicological characteristics

Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and tearing of the eyes.

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

- Skin corrosion/irritation:** Classification based on data available for ingredients. Irritating to skin.
- Serious eye damage/eye irritation:** Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
- Respiratory or skin sensitization:** May cause sensitization by skin contact.
- Germ cell mutagenicity:** Not classified. Based on available data, the classification criteria are not met.
- Carcinogenicity:** Based on available data, the classification criteria are not met.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Acrylic Acid	-	Group 3	-	-

Legend:

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

- Reproductive toxicity:** Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.
- STOT - single exposure:** Not classified. Based on available data, the classification criteria are not met.
- STOT - repeated exposure:** Not classified. Based on available data, the classification criteria are not met.
- Target organ effects:** Respiratory system. Eyes. Skin.
- Aspiration hazard:** Not classified. Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

Product Information

Testing for acute and chronic aquatic effects determined no environmental classification is required. OECD Test No. 202: Daphnia sp., Acute Immobilization Test.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
N,N-Dimethylacrylamide	-	LC50: >100mg/L (96h, Oncorhynchus mykiss)	-	EC50 > 120 mg/l 48 h (Daphnia magna)
Isobornyl Methacrylate	-	LC50: =1.79mg/L (96h, Danio rerio)	-	-
Methacrylate Ester Monomer	-	LC50: 213 - 242mg/L (96h, Pimephales promelas) LC50: =227mg/L (96h, Pimephales promelas)	-	EC50 > 380 mg/l 48 h (Daphnia magna)
Acrylic Acid	EC50: =0.04mg/L (72h, Desmodesmus subspicatus) EC50: =0.17mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =222mg/L (96h, Brachydanio rerio) NOEC: >= 10.1mg/L (45d, Oryzias latipes, OECD 210)	-	EC50: =95mg/L (48h, Daphnia magna) NOEC: =3.8mg/L (21d, Daphnia magna)
Visible Photoinitiator	-	LC50 10 mg/l 48 h (Oryzias latipes)	-	-
Silane Coupling Agent	EC50 > 536,00 mg/l 72 h (Scenedesmus subspicatus)	LC50: >100mg/L (96h Danio rerio)	-	EC50 > 876,00 mg/l 48 h (Daphnia magna)

Persistence and degradability

No information available.

Bioaccumulation

There is no data for this product.

Component Information

Chemical name	Partition coefficient
Methacrylate Ester Monomer	0.47
Acrylic Acid	0.46
Silane Coupling Agent	2.1

Other adverse effects

No information available.

13. Disposal considerations**Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of contents/containers in accordance with local regulations.

US EPA Waste Number: U008

14. Transport information

IMDG	Not regulated
IATA	Not regulated
DOT	Not regulated

15. Regulatory information**International Inventories**

TSCA Complies

AIIC	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Not Listed
NZIoC	Complies
TCSI	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

AIICS - Australian Industrial Chemicals Introduction Scheme

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

US Federal Regulations**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.

Chemical name	SARA 313 - Threshold Values %
Acrylate monomer	1.0
Acrylic Acid	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

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Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Acrylic Acid	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-Propenoic acid, 2-(2-ethoxyethoxy)ethyl ester	X	-	X
Acrylic Acid	X	X	X
Phenothiazine	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number

Not applicable

16. Other information

NFPA Health hazards 3 Flammability 1 Instability 0 Special hazards -
HMIS Health hazards * 3 Flammability 1 Physical hazards 0 Personal protection X
Chronic Hazard Star Legend: * = Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA (time-weighted average)	STEL (Short Term Exposure Limit)
Ceiling: Maximum limit value	*: Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGLe(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Revision Note The symbol (*) in the margin of this SDS indicates that this line has been revised

Disclaimer

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End of Safety Data Sheet