

### **Manufacturer:**

Dymax®

# **Product Name:**

Dymax OP-29 UV Optical Adhesive (3ml)

# **Manufacturer Part Number:**

OP-29-3ML

Click here for more details on the Dymax OP-29 UV Optical Adhesive (3ml)



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

#### **OP-29**

Issuing Date06-Oct-2023Revision date06-Oct-2023Revision Number32

#### 1. Identification

A. Product identifier

Product Name OP-29

Product Description Polyether Urethane Acrylate

B. Relevant identified uses of the substance or mixture and uses advised against

Recommended use No information available

Uses advised against No information available

C. Supplier's details

Manufacturer / Supplier

Dymax Corporation 318 Industrial Lane Torrington, CT 06790 Tel: 860-482-1010 Fax: 860-496-0608 Hanarey Chemicals (Shanghai) Co., Ltd.

No.111, Muhua Road Fengxian District Shanghai China Tel: +86 21 3758 5098 ZIP: 201507 Dymax Asia Pacific Pte Ltd. Block 5008 (East Wing) Ang Mo Kio Ave. 5 #05-3 TECHplace II Singapore 569874 Tel: +65-6752-2887 Fax: +65-6752-2813

Importer

Dymax Korea LLC #506, U'space2 A-dong 670, Daewangpangyo-ro Bundang-gu, Seongnam-si Gyeonggi-do, Korea Phone: +82.31.608.3434 Fax: +82.31.608.3366

For further information, please contact

E-mail address Product\_Regulatory\_Asia@dymax.com
Emergency telephone number Chemtrec @ 001-703-741-5970 (24hrs)

Local in Country 00-308-13-2549
Toll Free in Country +(82) 070-7686-0086

### 2. Hazard(s) identification

#### A. Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

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Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3

## B. GHS Label elements, including precautionary statements

#### Hazard symbols



#### Signal word

Warning

#### **Hazard statements**

- H315 Causes skin irritation H317 May cause an allergic skin reaction
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation

### **Precautionary Statements - Prevention**

- P264 Wash face, hands and any exposed skin thoroughly after handling
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P280 Wear protective gloves/protective clothing/eye protection/face protection
- P271 Use only outdoors or in a well-ventilated area

# Precautionary Statements - Response

P314 - Get medical advice/attention if you feel unwell

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P362 - Take off contaminated clothing and wash before reuse

P304 + P340 - IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing

**Precautionary Statements - Storage** P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

#### Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

#### C. Other hazards which do not result in classification

No information available.

#### **Product Information**

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

#### <u>Mixture</u>

Chemical name	CAS No	Weight-%	Other identifier	Common name	Approval	Expiration
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			number	and synonyms	number	date
Acrylate Ester	-	20 - 30%	Listed		-	-
Methacrylate Ester Monomer	-	10 - 20%	Listed		-	-
Acrylate monomer	-	0 - 10%	Listed		-	-
Acrylic Acid	79-10-7	2.686	KE-29442		-	-
Silane Coupling Agent	-	0 - 10%	Listed		-	-

#### 4. First-aid measures

#### A. In case of eye contact

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. Get medical attention if irritation develops and persists.

#### B. In case of skin contact

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

#### C. In case of inhalation

Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.

# D. In case of ingestion

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

# E. Indication of immediate medical attention and special treatment needed, if necessary

Show this safety data sheet to the doctor in attendance.

# Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

#### Symptoms

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

#### Effects of Exposure

No information available

#### Self-protection of the first aider

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

# 5. Fire-fighting measures

#### A. Suitable (and unsuitable) extinguishing media

# Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Large Fir

CAUTION: Use of water spray when fighting fire may be inefficient.

#### Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

### B. Specific hazards arising from the chemical

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

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#### Special Protective Equipment for Firefighters

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

### 6. Accidental release measures

#### A. Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. 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.

For emergency responders
Use personal protection recommended in Section 8.

B. Environmental precautions
Prevent further leakage or spillage if safe to do so.

#### C. 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. Pick up and transfer to properly labeled containers.

#### Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

# 7. Handling and storage

#### A. Precautions for safe handling

## Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice, Avoid contact with skin, eyes or clothing, Ensure adequate ventilation, In case of insufficient ventilation, wear suitable respiratory equipment, Do not eat, drink or smoke when using this product, Take off contaminated clothing and wash before reuse, Avoid breathing vapors or mists, Protect from light.

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

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place, Protect from light.

#### General hygiene considerations

Wear suitable gloves and eye/face protection, Do not eat, drink or smoke when using this product, Avoid contact with skin, eyes or clothing.

#### 8. Exposure controls/personal protection

### A. Control Parameters

Occupational exposure limits

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Chemical name	OEL	PEL	ACGIH TLV
Acrylic Acid	TWA: 2 ppm	No data	TWA: 2 ppm
	Skin*		S*

#### B. Appropriate engineering controls

#### **Engineering controls**

Evewash stations

Ventilation systems.

#### **Environmental exposure controls**

No information available.

#### C. Personal protective equipment

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Remarks • Method

Pensky-Martens Closed Cup (PMCC)

None known

None known

None known

**Eye protection**Wear safety glasses with side shields (or goggles).

#### Hand protection

Wear suitable gloves. Nitrile rubber, Butyl rubber.

#### **Body protection**

Wear suitable protective clothing. Long sleeved clothing.

# 9. Physical and chemical properties

#### Information on basic physical and chemical properties

A. Appearance transparent **Physical State** Liquid

colorless light yellow to B. Odor Characteristic C. Odor threshold No information available

Property

<u>Values</u> No information available D. pH E. Melting point / freezing point No information available F. Initial boiling point and boiling No information available

range G. Flash point 101 °C / 213.8 °F

H. Evaporation rate No information available I. Flammability (solid, gas) No informati
J. Upper/lower flammability or explosive limits No information available

Upper flammability or explosive No information available

Lower flammability or explosive No information available

limits

K. Vapor pressure No information available None known

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Issuing Date 06-Oct-2023 Revision date 06-Oct-2023 Revision Number 32 L. Solubility(ies) Insoluble in water None known Water solubility No information available Solubility in other solvents None known M. Relative vapor density No information available None known N. Specific Gravity No information available None known O. Partition coefficient: No information available None known n-octanol/water P. Autoignition Point 438 °C / 820.4 °F None known Q. Decomposition temperature R. Viscosity None known Kinematic viscosity No information available None known Dynamic viscosity 2,500 cP None known No information available S. Molecular weight Other information Explosive properties No information available Oxidizing properties No information available Softening point No information available VOC content No information available **Liquid Density** No information available

#### 10. Stability and reactivity

#### A. Chemical stability and possibility of hazardous reactions

#### Stability

Stable under normal conditions

#### Possibility of hazardous reactions

None under normal processing.

#### **Explosion data**

Sensitivity to mechanical impact None.

Sensitivity to static discharge None

### B. Conditions to avoid

None known based on information supplied.

#### C. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

#### D. Hazardous decomposition products

None known based on information supplied.

#### 11. Toxicological information

#### A. Information on the likely routes of exposure

#### Product Information

#### Inhalation

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

#### Ingestion

Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting

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and diarrhea

Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

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

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

#### B. Health hazards information

Acute toxicity

Numerical measures of toxicity

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

5,775.30 mg/kg 5,549.70 mg/kg ppm ATEmix (oral) ATEmix (dermal) 409.50 mg/l ATEmix (inhalation-vapor) ATEmix (inhalation-dust/mist) 103.30 mg/l

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Acrylate Ester	= 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Methacrylate Ester Monomer	= 5050 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Acrylate monomer	-	> 2000 mg/kg (Rabbit) 1000 - 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
Silane Coupling Agent	= 23.5 g/kg (Rat)	> 2000 mg/kg (Rat)	> 2.28 mg/L (Rat) 6 h

#### Skin corrosion/irritation

Classification based on data available for ingredients. Causes skin irritation.

# Serious eye damage/irritation

Classification based on data available for ingredients. Causes serious eye irritation.

# Respiratory or skin sensitization May cause an allergic skin reaction.

#### Carcinogenicity

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

Chemical name	IARC
Acrylic Acid	Group 3
Legend	

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IARC (International Agency for Research on Cancer) Group 3 - Not Classifiable as to Carcinogenicity in Humans

#### Germ cell mutagenicity

No information available.

#### Reproductive toxicity

No information available.

### Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

#### Specific target organ toxicity (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

#### A. Ecotoxicity

The environmental impact of this product has not been fully investigated.

# 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	Crustacea
Acrylate Ester	ErC 50 = 2.7 mg/L 96h	LC50: =0.704mg/L 96h	EC 50 = 1.1 mg/L 48 h
	(Pseudokirchneriella	(Danio rerio)	(Daphnia magna)
	subcapitata)		
Methacrylate Ester Monomer	-	LC50: 213 - 242mg/L (96h,	EC50 > 380 mg/l 48 h
		Pimephales promelas)	(Daphnia magna)
		LC50: =227mg/L (96h,	
		Pimephales promelas)	
Acrylic Acid	EC50: =0.04mg/L	LC50: =222mg/L (96h,	EC50:=95mg/L (48h, Daphnia
	(72h, Desmodesmus	Brachydanio rerio) NOEC: >=	
	subspicatus)	10.1mg/L (45d, Oryzias	NOEC: =3.8mg/L (21d,
	EC50: =0.17mg/L	latipes, OECD 210)	Daphnia magna)
	(96h, Pseudokirchneriella		
	subcapitata)		
Silane Coupling Agent	EC50 > 536,00 mg/l 72 h	LC50: >100mg/L	EC50 > 876,00 mg/l 48 h
, , ,	(Scenedesmus subspicatus)	(96h Danio rerio)	(Daphnia magna)

B. Persistence and degradability No information available.

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#### C. Bioaccumulative potential

Component Information

Component information	
Chemical name	Partition coefficient
Acrylate Ester	4.52
Methacrylate Ester Monomer	0.42
Acrylate monomer	1.2
Acrylic Acid	0.46
Silane Coupling Agent	2.1

D. Mobility in soil No information available. No information available. E. Other adverse effects

#### 13. Disposal considerations

#### A. Waste treatment methods

#### Waste from residues/unused products

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

#### B. Disposal considerations

# Contaminated packaging Do not reuse empty containers.

# 14. Transport information

A. UN number Not regulated B. UN proper shipping name Not regulated C. Transport hazard class(es) Not regulated D. Packing group Not regulated E. Marine pollutant Not applicable F. Special precautions for user Not regulated

### 15. Regulatory information

#### A. Industrial Safety and Health Law

#### Prohibited substance

Not applicable

# **Substances Requiring Permission**

Not applicable

# Harmful substances subject to control

Chemical name	Harmful substances subject to control
Acrylic Acid	Applicable

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# Harmful agents subject to work environment monitoring

(Measurement cycle: 6 months)

# Harmful agents subject to workers requiring health examination

# Harmful or dangerous substances subject to submission of process safety reports

#### Control parameters

See section 8 for national exposure control parameters

coo coolier o rei malieriai expectare comicei param	010.0	
Chemical name	OEL	PEL
Acrylic Acid	TWA: 2 ppm	No data
	Skin*	

#### B. Chemicals Control Act

Chemical name	Toxic substance	Authorization	Prohibited substance	Restricted substance		
		substance				
Acrylic Acid 2020-1-983, 5 % * Not applicable Not applicable Not applicable						
* Mixtures containing this % or more are designated						

### Chemicals Control Act (CCA) - Accident Precaution Chemicals

Chemical name	Chemicals Control Act (CCA) - Accident Precaution Chemicals	
Acrylic Acid	Applicable	

Act on Registration, Evaluation, etc. of Chemicals (K-REACH)
Refer to the Act on Registration and Evaluation of Chemical Substances, Articles 8-4, 9 and 10-2

Chemical name	Existing substances subject to registration	Existing substances not likely to be subject to registration	Existing substances known to be of very low risk
Acrylic Acid	Applicable	Not applicable	Not applicable

# C. Safety Control of Dangerous Substances Act

### **Dangerous Goods Class**

Class 4 - flammable liquids - Group 3 petroleum chemicals, water insoluble, 2,000l

### D. Wastes Management

Dispose of waste in accordance with environmental legislation.

# E. Other Regulations

# **International Regulations**

# The Montreal Protocol on Substances that Deplete the Ozone Layer

Not applicable

# The Stockholm Convention on Persistent Organic Pollutants

Not applicable

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#### The Rotterdam Convention

International Inventories

TSCA DSL/NDSL Complies. Complies EINECS/ELINCS Complies. **ENCS** Complies. **IFCSC** Complies. KECL **PICCS** Not Listed AIIC Complies. NZIoC Complies TCSI Complies

#### Legend:

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

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
AIICS - Australian Industrial Chemicals Introduction Scheme

NZIoC - New Zealand Inventory of Chemicals TCSI - Taiwan Chemical Substance Inventory

# 16. Other information

#### A. Information sources and references

Prepared By No information available.

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

ACGIH (American Conference of Governmental Industrial Hygienists)

**IMDG** International Maritime Dangerous Goods (IMDG)

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA (time-weighted average) TWA STEL (Short Term Exposure Limit) Ceilina 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) (AEGL(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) National Institute of Technology and Evaluation (NITE)

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)

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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

В.

C. Revision number and date

**Revision Number** 

Revision date 06-Oct-2023

D. Other

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet** 

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