

Manufacturer:

Dymax

Product Name:

Dymax OP-29 Optical Adhesive, Optically Clear, UV Cure - 3ml Syringe

Manufacturer Part Number:

OP-29-3ML

Click here for more details on the Dymax OP-29 Optical Adhesive, Optically Clear, UV Cure - 3ml Syringe



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

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: +66-6752-2813

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

Mixture

Chemical name	CAS No	Weight-%	Other identifier	Common name	Approval	Expiration
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Contact the professionals at Fiber Optic Center for a quote or to get more details.





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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

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

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.

Eye protectionWear 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

Values

Property
D. pH
E. Melting point / freezing point No information available No information available No information available

F. Initial boiling point and boiling 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

Remarks • Method

None known None known

Pensky-Martens Closed Cup (PMCC)

None known

None known

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L. Solubility(ies) Water solubility Insoluble in water None known 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: n-octanol/water No information available None known 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

 Other information
 No information available

 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

S. Molecular weight

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.

Eve contact

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

Skin contact

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.

Symptoms

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

 ATEmix (oral)
 5,775.30
 mg/kg

 ATEmix (dermal)
 5,549.70
 mg/kg
 ppm

 ATEmix (inhalation-vapor)
 409.50
 mg/l
 ATEmix (inhalation-dust/mist)
 103.30
 mg/l

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

Component Information

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

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

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: >=	magna)
	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

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.

E. Other adverse effects

No information available.

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 Not applicable E. Marine pollutant 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

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

B. Chemicals Control Act

Chemical name	Toxic substance	Authorization substance	Prohibited substance	Restricted 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

No information available

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

Not applicable

International Inventories

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

C. Revision number and date

Revision Number Revision date

06-Oct-2023

D. Other

<u>Disclaimer</u>
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



