

Manufacturer:

Dymax®

Product Name:

Dymax OP-30 Flexible Optical Adhesive, Hazy/Translucent, UV Cure - 3ml Syringe

Manufacturer Part Number:

OP-30-3ML

Click here for more details on the Dymax OP-30 Flexible Optical Adhesive, Hazy/Translucent, UV Cure - 3ml Syringe



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: MoL Notice 2012-14

OP-30

Issuing Date 30-Mar-2023 Revision date 30-Mar-2023 Revision Number 32

1. Identification

A. Product identifier

Product Name OP-30

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

Recommended use Adhesives and/or sealants.

Uses advised against Consumer use

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

Ang Mo Kio Ave. 5 #05-3 TECHplace II Singapore 569874 Tel: +65-6752-2887 Fax: +65-6752-2813

Dymax Asia Pacific Pte Ltd.

Block 5008 (East Wing)

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

Responsibility Statement

E-mail address Product_Regulatory_Asia@dymax.com

Emergency telephone number

Chemtrec @ 001-703-741-5970 (24hrs) **Emergency Telephone**

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 1

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

B. GHS Label elements, including precautionary statements

Hazard symbols



Signal word

Danger

Hazard statements

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation. H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements - Prevention

- P264 Wash face, hands and any exposed skin thoroughly after handling.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

Environmental product testing for acute and chronic aquatic effects determined classification to be Category 3. OECD Test No. 202: Daphnia sp., Acute Immobilization Test.

3. Composition/information on ingredients

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Substance

Not applicable

<u>Mixture</u>

Chemical name	CAS No	Weight-%	Other identifier number
Acrylate Ester	Proprietary	25-39	Listed
Acrylic oligomer	Proprietary	10-24	Listed
Methacrylate Ester Monomer	Proprietary	10-24	Listed
Acrylate monomer	Proprietary	10-24	Listed
Acrylic Acid	79-10-7	3-<5	KE-29442
Silane Coupling Agent	Proprietary	1-<3	Listed
Peroxide	Proprietary	<1	Listed
Visible Photoinitiator	Proprietary	<1	Listed

4. First-aid measures

A. In case of eye contact

Get immediate medical 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.

B. In case of 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.

C. In case of inhalation

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

D. In case of ingestion

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

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

General advice

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

Self-protection of the first aider

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

Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

Symptoms

Burning sensation. Itching. Rashes. Hives.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable Extinguishing Media

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

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

B. Specific hazards arising from the chemical

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

Hazardous combustion products

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

C. 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

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

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.

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

A. Precautions for safe handling

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

B. Conditions for safe storage, including any incompatibilities

Storage Conditions

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

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

8. Exposure controls/personal protection

A. Control Parameters

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Occupational exposure limits

Chemical name	OEL	PEL
Acrylic Acid	TWA: 2 ppm	-
•	Skin*	

B. Appropriate engineering controls

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Environmental exposure controls

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

C. Personal protective equipment

Hand protection

Wear suitable gloves. Nitrile rubber, Butyl rubber.

Eye protection

Tight sealing safety goggles.

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.

9. Physical and chemical properties

Information on basic physical and chemical properties

A. Appearance: transparent Liquid color: color: coloress

B. Odor: Characteristic
C. Odor threshold: No information available

Property
D. pH:
No data available
No information available

G. Flash point: 101 °C / 213.8 °F Pensky-Martens Closed Cup (PMCC)

H. Evaporation rate: No data available No information available

I. Flammability (solid, gas): No data available Not applicable

J. Upper/lower flammability or explosive limits
Upper flammability or explosive limits:
Lower flammability or explosive limits:
Lower flammability or explosive limits:

K. Vapor pressure:
No data available
No information available
No information available
No information available
No information available

.. Solubility(ies)
Water solubility: partially soluble No information available
Solubility in other solvents: No data available No information available

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Issuing Date 30-Mar-2023 Revision date 30-Mar-2023 Revision Number 32 M. Relative vapor density: No data available No information available N. Specific Gravity: No data available No information available O. Partition coefficient: No data available No information available n-octanol/water: 238 °C / 460.4 °F P. Autoignition Point: No information available Q. Decomposition temperature: No data available No information available R. Viscosity Kinematic viscosity: No data available No information available Dynamic viscosity: S. Molecular weight: 400 cF No data available Other information **Explosive properties:** No information available Oxidizing properties: No information available Softening point: No information available No information available VOC Content (%): Liquid Density: No information available

10. Stability and reactivity

A. Chemical stability and possibility of hazardous reactions

Stability

Stable under normal conditions

Reactivity

No information available

Possibility of hazardous reactions

None under normal processing

Hazardous polymerization

None under normal processing

Explosion data

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

B. Conditions to avoid

Heat, flames and sparks. Protect from light.

C. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

D. Hazardous decomposition products

None under normal use conditions.

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.

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

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diarrhea. May be harmful if swallowed.

Eye contact:

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

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.

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

B. Health hazards information

Acute toxicity

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

ATEmix (oral): 4,593.50 mg/kg 4,479.90 mg/kg ATEmix (dermal): 68.10 mg/l ATEmix (inhalation-dust/mist): ATEmix (inhalation-vapor): 270.10 mg/l

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

Commonent 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
Peroxide	= 1012 mg/kg (Rat)	= 3817 mg/kg (Rabbit)	1.01 - 4.9 mg/L (Rat) 4 h
Visible Photoinitiator	-	> 2000 mg/kg (Rat)	-

Skin corrosion/irritation:

Classification based on data available for ingredients. Irritating to skin.

Serious eye damage/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.

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	IARC
Acrylic Acid	Group 3
ld-	

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans Group 3 - Not Classifiable as to Carcinogenicity in Humans

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Germ cell mutagenicity:

Based on available data, the classification criteria are not met. Not classified.

Reproductive toxicity: Based on available data, the classification criteria are not met. Not classified.

Specific target organ toxicity (STOT) - single exposure:

May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity (STOT) - repeated exposure:

Based on available data, the classification criteria are not met. Not classified.

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

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Product Information

Environmental product testing for acute and chronic aquatic effects determined classification to be Category 3. OECD Test No. 202: Daphnia sp., Acute Immobilization Test.

Chemical name	Fish	Crustacea	Algae/aquatic plants
Acrylate Ester	LC50: =0.704mg/L 96h	EC 50 = 1.1 mg/L 48 h	ErC 50 = 2.7 mg/L 96h
·	(Danio rerio)		(Pseudokirchneriella subcapitata)
Methacrylate Ester Monomer	LC50: 213 - 242mg/L (96h,	EC50 > 380 mg/l 48 h (Daphnia	-
	Pimephales promelas)	magna)	
	LC50: =227mg/L (96h,		
	Pimephales promelas)		
Acrylic Acid	LC50: =222mg/L (96h,	EC50:=95mg/L (48h, Daphnia	EC50: =0.04mg/L
	Brachydanio rerio) NOEC: >=	magna)	(72h, Desmodesmus subspicatus)
	10.1mg/L (45d, Oryzias latipes,	NOEC: =3.8mg/L (21d, Daphnia	EC50: =0.17mg/L
	OECD 210)	magna)	(96h, Pseudokirchneriella
			subcapitata)
Silane Coupling Agent	LC50: >100mg/L	EC50 > 876,00 mg/l 48 h	EC50 > 536,00 mg/l 72 h
	(96h Danio rerio)	(Daphnia magna)	(Scenedesmus subspicatus)
Peroxide	LC50: =1.6mg/L 96h		ErC50 = 0.8 mg/l 72h } par (Green
	(Danio rerio)	(Daphnia magna)	Algae)
Visible Photoinitiator	LC50 10 mg/l 48 h	=	-
	(Oryzias latipes)		

B. Persistence and degradability

No information available.

C. Bioaccumulative potential

There is no data for this product.

nonent Information

Component information				
Chemical name	Partition coefficient			
Acrylate Ester	4.52			
Acrylic oligomer	2.03			
Methacrylate Ester Monomer	0.42			

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Acrylate monomer	1.2
Acrylic Acid	0.46
Silane Coupling Agent	2.1
Peroxide	3
Visible Photoinitiator	3.1

D. Mobility in soil

No information available.

E. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

13. Disposal considerations

A. Waste treatment methods

Waste from residues/unused products

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

B. Disposal considerations

Contaminated packaging

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

14. Transport information

A. UN number or ID number:
B. UN proper shipping name:
C. Transport hazard class(es):
D. Packing group:
E. Marine pollutant:
F. Special precautions for user:
Not regulated
Not regulated
Not regulated
Not applicable
None

15. Regulatory information

A. Industrial Safety and Health Law

Chemical name	Prohibited substance	Substances Requiring Permission		ISHA - Substances to be controlled - Metals	
Acrylic Acid	Not applicable	Not applicable	>=1 %	Not applicable	>=1%

B. Chemicals Control Act

Chemical name	Toxic substance	Prohibited substance	Restricted substance
Acrylic Acid	2020-1-0983, 5 % *	Not applicable	Not applicable

^{*} Mixtures containing this % or more are designated

Chemicals Control Act (CCA) - Accident Precaution Chemicals Applicable.

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Chemical name	Threshold Values (%)	Quantity limit for manufacture/use	Quantity limit for custody/storage
Acrylic Acid		1500000 kg/yr	20000 kg/yr

C. Safety Control of Dangerous Substances Act

Not applicable

D. Wastes Management

Dispose of waste in accordance with environmental legislation.

E. Other Regulations

Pollutant Release and Transfer Register (PRTR)

International Inventories

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

<u>Legend:</u>
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

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

H: ACGIH (American Conference of Governmental Industrial Hygienists)

IMDG: International Maritime Dangerous Goods (IMDG)

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) (AEGL(s))

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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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D. Other No information available

Disclaimer

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End of Safety Data Sheet

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