

Manufacturer:

Dymax

Product Name:

Dymax OP-60 High Viscosity Optical Adhesive, Opaque Light Yellow Paste, UV Cure - 3ml Syringe

Manufacturer Part Number:

OP-60-3ML

Click here for more details on the Dymax OP-60 High Viscosity Optical Adhesive, Opaque Light Yellow Paste, UV Cure - 3ml Syringe



This safety data sheet was created pursuant to the requirements of: GB/T 16483, GB/T 17519

Adhesives OP-60

Issuing Date 31-Aug-2023 Revision date 31-Aug-2023 Revision Number 33

1. Identification

Product identifier

Product Name OP-60

Other means of identification

Pure substance/mixture Mixture Details of the supplier of the safety data sheet

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

E-mail address

Product_Regulatory_Asia@dymax.com

Emergency telephone number 400-6267911 (24hrs)

China 400-6267911 (Mandarin) Hong Kong 800-968-793 (Cantonese) Philippines 1-800-1-116-1020

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use Other usages expect recommendation use

Uses advised against Consumer use

2. Hazard(s) identification

Emergency Overview Irritating to skin Risk of serious damage to eyes May cause allergic skin reaction

Appearance_opaque Physical state Liquid Odor Characteristic

Classification of the substance or mixture

Acute toxicity - Oral Category 5 Skin corrosion/irritation Category 2

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Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1

Label elements





Signal word

Danger

Hazard statements

May be harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.

Precautionary statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves/clothing and eye/face protection.

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.

Storage

Store in a closed container.

Disposal

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

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: If large quantities of this material are swallowed, call a physician immediately. If symptoms persist, call a physician. Causes skin irritation (pain, redness and swelling). Risk of serious damage to eyes. Impairment of vision. Allergic reactions (sensitizer). Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

Chronic effects: Not applicable.

Environmental hazards

Not applicable

Other hazards which do not result in classification

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

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3. Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical name	CAS No.	Weight-%
N,N-Dimethylacrylamide	2680-03-7	5-<10
Alkyl acrylate	Proprietary	1 -<3
Acrylic Acid	79-10-7	1 -<3
Visible photoinitiator	Proprietary	1 -<3
Photoinitiator	Proprietary	1 -<3
Silane Coupling Agent	Proprietary	0.1-<1
Sodium Hydroxide	1310-73-2	0.1-<1

4. First-aid measures

Description of necessary first aid measures

General advice

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

Ingestion

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

Most important symptoms/effects, acute and delayed

Burning sensation. Itching. Rashes. Hives.

For emergency responders

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.

5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media

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

Unsuitable extinguishing media

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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 (NOx).

<u>Special protective actions for fire-fighters</u>
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

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.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

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

Precautions to prevent 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.

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

Reference to other sections

See Section 8 for information on appropriate personal protective equipment.

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Conditions for safe storage, including any incompatibilities

Storage Conditions

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

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

8. Exposure controls/personal protection

Occupational exposure limits

Chemical name	China	ACGIH TLV
Acrylic Acid	TWA: 6 mg/m ³	TWA: 2 ppm
	Skin*	S*
Sodium Hydroxide	Ceilina: 2 mg/m³ Ceiling	Ceiling: 2 mg/m ³

Note: See section 16 for terms and abbreviations.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring and observation processes

No applicable information was found.

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.

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.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state: Liquid Appearance: opaque

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Color: light yellow Odor: Characteristic Odor threshold: No information available

Property Remarks • Method Values No data available No information available pH (as aqueous solution): No data available Not applicable No data available No information available Melting point / freezing point: Boiling point / boiling range: No information available No data available Flash point: 101 °C / 213.8 °F Pensky-Martens Closed Cup (PMCC)

No data available No information available Evaporation rate:

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

Flammability Limit in Air No data available

Upper flammability or explosive No information available limits: No information available Lower flammability or explosive No data available

limits: Vapor pressure: No information available No data available Relative vapor density: No data available No information available Relative density: No data available No information available Water solubility: No data available No information available No data available No information available Solubility(ies): 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: 150,000 cP

Other information

Explosive properties: No information available No information available Oxidizing properties:

10. Stability and reactivity

Stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Reactivity
No information available.

Explosion data

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

Hazardous polymerization

None under normal processing.

<u>Conditions to avoid</u> Protect from light. Heat, flames and sparks.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

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FOC last update 12/14/2025.



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<u>Hazardous decomposition products</u> None under normal use conditions.

11. Toxicological information

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document: ATEmix (oral): $2,074.40 \, \text{mg/kg}$ ATEmix (dermal): $7,525.80 \, \text{mg/kg}$

ATEmix (inhalation-gas): 99,999.00 ppm ATEmix (inhalation-dust/mist): 115.60 mg/l ATEmix (inhalation-vapor): 99,999.00 mg/l

Unknown acute toxicity

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylacrylamide	= 316 mg/kg (Rat)	907mg/kg (Rabbit)	> 776 ppm (Rat) 1 h
Alkyl acrylate	= 5190 mg/kg (Rat)	= 5000 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
Visible photoinitiator	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Photoinitiator	= 1694 mg/kg (Rat)	= 6929 mg/kg (Rat)	-
Silane Coupling Agent	= 23.5 g/kg (Rat)	> 2000 mg/kg (Rat)	> 2.28 mg/L (Rat) 6 h
Sodium Hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	

Skin corrosion/irritation:

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

Serious eve damage/eve 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:

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

Chemical name China IARC		
Alkyl acrylate	-	Group 2B
Acrylic Acid	-	Group 3

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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Reproductive toxicity:

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

Specific target organ toxicity (single exposure): Not classified. Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure):
Not classified. Based on available data, the classification criteria are not met.

Target organ effects:

Respiratory system. Eyes. Skin.

Aspiration hazard:

No information available.

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	Crustacea
N,N-Dimethylacrylamide	= -/	LC50: >100mg/L 96h	EC50 > 120 mg/l 48 h
		(Oncorhynchus mykiss)	(Daphnia magna)
Acrylic Acid	EC50: =0.04mg/L	LC50: =222mg/L (96h, Brachydanio	EC50:=95mg/L (48h, Daphnia
	(72h, Desmodesmus subspicatus)	rerio) NOEC: >= 10.1mg/L (45d,	magna)
	EC50: =0.17mg/L	Oryzias latipes, OECD 210)	NOEC: =3.8mg/L (21d, Daphnia
	(96h, Pseudokirchneriella		magna)
	subcapitata)		
Visible photoinitiator	-	LC50: >90µg/L	
		(96h, Danio rerio)	
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)
Sodium Hydroxide	-	LC50: =45.4mg/L (96h,	
,		Oncorhynchus mykiss)	

Persistence and degradability No information available.

Bioaccumulative potential There is no data for this product.

Com	ponent	Informa	ation

Component information		
Chemical name	Partition coefficient	
N,N-Dimethylacrylamide	-0.3	
Alkyl acrylate	0.67	
Acrylic Acid	0.46	
Visible photoinitiator	5.8	
Photoinitiator	1.62	
Silane Coupling Agent	2.1	

Mobility in soil
No information available.

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Other adverse effects

No information available.

13. Disposal considerations

<u>Waste chemicals</u>
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.

14. Transport information

IMDG Not regulated

Not regulated IATA Not regulated China

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Listed Chemical hazards Catalog of occupational hazard factors: Catalog of occupational diseases: Listed Occupational poisoning

Chemical name	Category
Sodium Hydroxide	Chemical hazards

Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed. Weight-% 3

Chemical name	Inventory of hazardous chemicals	Serial number
Acrylic Acid	Listed	0145
Sodium Hydroxide	Listed	1669

GB 18218-2018 Identification of major hazard installations for dangerous chemicals Not applicable.

List of hazardous chemicals under priority management

Chemical name	List of priority hazardous chemicals under work safety management
Acrylic Acid	Listed

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

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Inventory of highly toxic goods

Not applicable.

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China Not applicable.

Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

Complies

International Regulations

International Inventories

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

The Montreal Protocol on Substances that Deplete the Ozone Layer

Not applicable.

The Stockholm Convention on Persistent Organic Pollutants

Not applicable.

The Rotterdam Convention

Not applicable.

16. Other information

Revision date 31-Aug-2023

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

Abbreviations and acronyms

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA (time-weighted average)	STEL (Short Term Exposure Limit)
Ceiling: Maximum limit value	*: Skin designation
+: Sensitizers	**: Hazard Designation
C: Carcinogen	R*: Reproductive toxicant
M: mutagen	

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)

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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)

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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End of Safety Data Sheet



