

Manufacturer:

Dymax®

**Product Name:** Dymax OP-60 Optical Positioning UV Adhesive (30ml)

Manufacturer Part Number: OP-60-30ML

Click here for more details on the Dymax OP-60 Optical Positioning UV Adhesive (30ml)

This safety data s	SAFETY DATA SHEET heet was created pursuant to the requirements of: GB/T	9 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 Details of the supplier of the safe	Mixture ty 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.c	com	
Emergency telephone number 400-6267911 (24hrs)		
China 400-6267911 (Mandarin)	Hong Kong 800-968-793 (Cantonese) Philipp	<b>Dines</b> 1-800-1-116-1020
Recommended use of the chemic	al 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	1	
	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 Skin corrosion/irritation		Category 5 Category 2
	I	

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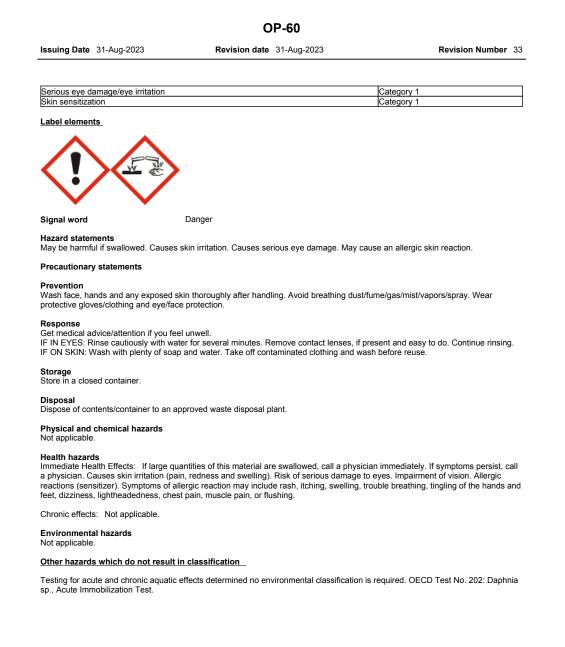
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### 3. Composition/information on ingredients

#### 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.

#### Eve 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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## **OP-60** Issuing Date 31-Aug-2023 Revision date 31-Aug-2023 Revision Number 33 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 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. 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 product. 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 <sup>3</sup>	TWA: 2 ppm
	Skin*	S*
Sodium Hydroxide	Ceiling: 2 mg/m <sup>3</sup> Ceiling	Ceiling: 2 mg/m <sup>3</sup>

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: Appearance:

Liquid opaque

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Color:		light yellow				
Odor: Odor thresho	ld:	Characteristic No information available	e			
Property		Values		Remarks • Method		
pH:		No data available		No information available		
pH (as aqueo		No data available		Not applicable		
	/ freezing point: / boiling range:	No data available No data available		No information available No information available		
Flash point:	/ boining range.	101 °C / 213.8 °F		Pensky-Martens Closed Cup	(PMCC)	
Evaporation r	ate:	No data available		No information available	(1100)	
Flammability	(solid, gas):	No data available		Not applicable		
limits:	mability or explosive	No data available		No information available		
limits:	mability or explosive	No data available		No information available		
Vapor pressu		No data available		No information available		
Relative vapo		No data available No data available		No information available No information available		
Relative dens Water solubili		No data available		No information available		
Solubility(ies)		No data available		No information available		
Partition coef		No data available		No information available		
Autoignition t		438 °C / 820.4 °F		No information available		
	on temperature:	No data available		No information available		
Kinematic vis Dynamic visc	cosity:	No data available 150,000 cP		No information available		
Other informa	ation					
Explosive pro Oxidizing pro		No information available No information available				
10. Stabili	ty and reactivity					
Stability						
Stable under n	ormal conditions.					
	hazardous reactions ormal processing.					
Reactivity No information	available.					
	t <b>a</b> nechanical impact: tatic discharge:	None. None.				
Hazardous po None under no	blymerization brmal processing.					
Conditions to	<u>avoid</u> ght. Heat, flames and sp	oarks.				
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Hazardous decomposition products 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 mg/kg ATEmix (demal): 7,525.80 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.

mponent Information:			
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	s listed any ingredient as a carcinogen.	
Chemical name	China	IARC
Alkyl acrylate	-	Group 2B
Acrylic Acid	-	Group 3
1 I		

Legend:

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.

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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.

#### 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 consider	ations		
<u>Waste chemicals</u> Dispose of in accordance with I	ocal regulations. D	Dispose of waste in accordance with enviro	onmental legislation.
Contaminated packaging Empty containers should be tak accordance with local regulation		l waste handling site for recycling or dispo	sal. Dispose of contents/containers in
14. Transport informa	tion		
IMDG	Not regula	ated	
IATA	Not regula	ated	
<u>China</u>	Not regula	ated	
15. Regulatory inform	ation		
Safety, health and environme National regulations Catalog of occupational hazard	ntal regulations/le	egislation specific for the substance of Listed Chemical hazards Listed Occupational poiso	
Safety, health and environme National regulations Catalog of occupational hazard Catalog of occupational diseas Chem	ntal regulations/le	Listed Chemical hazards Listed Occupational poisc	
Safety, health and environme National regulations Catalog of occupational hazard Catalog of occupational diseaso Chem Sodium Regulations on the Control o Inventory of hazardous chem	factors: es: ical name Hydroxide ver Safety of Haza icals dients above the co	Listed Chemical hazards Listed Occupational poiso	oning Category Chemical hazards
Safety, health and environme National regulations Catalog of occupational hazard Catalog of occupational disease Chem Sodium Regulations on the Control o Inventory of hazardous chem The table below indicates ingre Chemical nat Acrylic Acic	intal regulations/le factors: es: ical name iydroxide ver Safety of Haza icals dients above the co me	Listed Chemical hazards Listed Occupational poiso ardous Chemicals_ eut-off threshold considered as relevant wh	Category Chemical hazards ich are listed. Weight-% 3 Serial number 0145
National regulations Catalog of occupational hazard Catalog of occupational disease Chem Sodium Regulations on the Control o Inventory of hazardous chem The table below indicates ingre Chemical nat Acrylic Acic Sodium Hydro:	factors: es: ical name Hydroxide ver Safety of Haza dients above the co ne idde of major hazard in	Listed Chemical hazards Listed Occupational poise ardous Chemicals sut-off threshold considered as relevant where the second sec	ning Category Chemical hazards iich are listed. Weight-% 3 Serial number
Safety, health and environme National regulations Catalog of occupational hazard Catalog of occupational disease Chem Sodium Regulations on the Control o Inventory of hazardous chem The table below indicates ingre Chemical nat Acrylic Acic Sodium Hydroz GB 18218-2018 Identification Not applicable.	factors: es: ical name Hydroxide ver Safety of Haza dients above the co ne idde of major hazard in	Listed Chemical hazards Listed Occupational poiso ardous Chemicals aut-off threshold considered as relevant whether the shold considered as relevant with the shold construct as the shold const	Category Chemical hazards ich are listed. Weight-% 3 Serial number 0145

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Inventory of highly toxic good Not applicable.	S			
Regulations for Environmenta Chemicals	I Management on the First Im	port of Chemicals and th	e Import and Export of Toxic	
List of toxic chemicals severel Not applicable.	y restricted for import and ex	port in China		
Measures for the Environment	al Management of New Chem	ical Substances		
IECSC - China Inventory of Exi Complies.	sting Chemical Substances			
International Regulations				
International Inventories AIIC DSL/NDSL EINECS/ELINCS ENCS KECL PICCS NZIOC TCSI TSCA The Montreal Protocol on Subs Not applicable. The Stockholm Convention on Not applicable.		-		
The Rotterdam Convention Not applicable.				
16 Other information				
16. Other information				
Revision date	31-Aug-2023			
Revision Note	The symbol (*) in the ma	rgin of this SDS indicates	that this line has been revised	
Abbreviations and acronyms				
Legend Section 8: EXPOSUR	E CONTROLS/PERSONAL PR	OTECTION		
TWA (time-weighted average)		STEL (Short Term Expo	sure Limit)	
Ceiling: Maximum limit value		*: Skin designation		
+: Sensitizers C: Carcinogen		**: Hazard Designation R*: Reproductive toxica	unt	_
M: mutagen				_
Key literature references and s Agency for Toxic Substances an		bile 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 Kireening Information Data Set World Health Organization

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End of Safety Data Sheet

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