

Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)



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

Adhesives OP-4-20641

Revision date 25-Jan-2024 Issuing Date 25-Jan-2024 Revision Number 33

1. Identification

Product identifier

Product Name OP-4-20641

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

No information available Recommended use

Restrictions on use Other usages expect recommendation use.

Consumer use. Uses advised against

2. Hazard(s) identification

Emergency Overview

Irritating to skin Risk of serious damage to eyes May cause allergic skin reaction Contains a known or suspected carcinogen

Appearance transparent Physical state Liquid Odor Characteristic

Classification of the substance or mixture

Skin corrosion/irritation Category 2

Page 1/12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date25-Jan-2024Revision date25-Jan-2024Revision Number33

Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2

Label elements



Signal word

Danger

Hazard statements

Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention

Do not handle until all safety precautions have been read and understood. 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 locked up.

Disposal

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

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: 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: Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin.

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.

Page 2 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
2-Hydroxyethyl methacrylate	868-77-9	10-<25
Acrylate monomer	Proprietary	5-<10
Acrylic Acid	79-10-7	3-<5
Isobornyl Acrylate	5888-33-5	1 -<3
Silane Coupling Agent	Proprietary	0.1-<1
Benzophenone	119-61-9	0.1-<1
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	75980-60-8	0.1-<1
Octocrylene	6197-30-4	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. IF exposed or concerned: Get medical advice/attention.

Ingestion

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

Remove to fresh air. Get medical attention immediately if symptoms occur.

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.

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

Page 3 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

Suitable Extinguishing Media

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

Unsuitable extinguishing media

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).

Special protective actions for fire-fighters

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, Protect from light, Ensure adequate ventilation.

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. Wash hands before breaks and immediately after handling the product.

Page 4 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

Reference to other sections

See Section 8 for information on appropriate personal protective equipment.

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*

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. Wash hands before breaks and immediately after handling the product.

Hand protection

Wear suitable gloves. Nitrile rubber, Butyl rubber.

Eye/face protectionWear safety glasses with side shields (or goggles).

Skin and body protectionWear 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

Page 5 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

Liquid Physical state: transparent Appearance: Color: colorless Odor: Characteristic

No information available Odor threshold:

Remarks • Method Property Values No data available None known Melting point / freezing point No data available None known

Boiling point / boiling range Flash point No data available None known > 101 °C Pensky-Martens Closed Cup (PMCC)

Evaporation rate No data available None known Flammability (solid, gas) Flammability Limit in Air No data available None known None known

Upper flammability or explosive No data available

No data available Lower flammability or explosive limits

Vapor pressure No data available None known Relative vapor density No data available None known Relative density Water solubility 1.06 None known Insoluble in water Solubility(ies) No data available None known Partition coefficient No data available 438 °C None known Autoignition temperature None known No data available None known Decomposition temperature None known

Kinematic viscosity No data available Dynamic viscosity 21.000 cP

Other information

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

10. Stability and reactivity

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:

Hazardous polymerization None under normal processing.

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

Page 6 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

None under normal use conditions

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation

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

Skin contact

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. Causes skin irritation.

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

Ingestion

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

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

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

Acute toxicity

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

7,190.60 mg/kg ATEmix (oral): 6,872.30 mg/kg ATEmix (dermal): ATEmix (inhalation-dust/mist): 87.90 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.

Component Information:

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-Hydroxyethyl methacrylate	= 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
Isobornyl Acrylate	= 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Silane Coupling Agent	= 23.5 g/kg (Rat)	> 2000 mg/kg (Rat)	> 2.28 mg/L (Rat) 6 h
Benzophenone	> 10 g/kg (Rat)	= 3535 mg/kg (Rabbit)	-
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Octocrylene	> 5 g/kg (Rat)	> 2000 mg/kg (Rat)	-

Page 7 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Revision date 25-Jan-2024 Revision Number 33 Issuing Date 25-Jan-2024

Skin corrosion/irritation:

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

Serious eye damage/eye 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
Acrylic Acid	=	Group 3
Benzophenone	-	Group 2B

Legend:

IARC (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity:

Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

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
2-Hydroxyethyl methacrylate	-	LC50: 213 - 242mg/L (96h, Pimephales promelas)	EC50 > 380 mg/l 48 h (Daphnia magna)
		LC50: =227mg/L (96h, Pimephales	
		promelas)	
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)

Page 8 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

	subcapitata)		
Isobornyl Acrylate	ErC 50 = 2.7 mg/L 96h (Pseudokirchneriella subcapitata)	LC50: =0.704mg/L 96h (Danio rerio)	EC 50 = 1.1 mg/L 48 h (Daphnia magna)
Silane Coupling Agent	EC50 > 536,00 mg/l 72 h (Scenedesmus subspicatus)	LC50: >100mg/L (96h Danio rerio)	EC50 > 876,00 mg/l 48 h (Daphnia magna)
Benzophenone	-	LC50: 13.2 - 15.3mg/L (96h, Pimephales promelas)	-
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	-	LC50 10 mg/l 48 h (Oryzias latipes)	-

Persistence and degradability

No information available.

Bioaccumulative potential

Component Information

Chemical name	Partition coefficient
2-Hydroxyethyl methacrylate	0.42
Acrylate monomer	1.2
Acrylic Acid	0.46
Isobornyl Acrylate	4.52
Silane Coupling Agent	2.1
Benzophenone	3.18
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	3.1
Octocrylene	6.1

Mobility in soil

No information available.

Other adverse effects

No information available.

13. Disposal considerations

Waste chemicals

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

IATA Not regulated China Not regulated

15. Regulatory information

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

Page 9 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Issuing Date 25-Jan-2024 Revision date 25-Jan-2024 Revision Number 33

National regulations

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

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

Inventory of highly toxic goods

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

International Regulations

International Inventories

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

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory AIICS - Australian Industrial Chemicals Introduction Scheme

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

Page 10 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

Revision date 25-Jan-2024 Issuing Date 25-Jan-2024 Revision Number 33

PICCS - Philippines Inventory of Chemicals and Chemical Substances

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

The Montreal Protocol on Substances that Deplete the Ozone Layer

The Stockholm Convention on Persistent Organic Pollutants

Not applicable.

The Rotterdam Convention

Not applicable.

16. Other information

25-Jan-2024 Revision date

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

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) EPA (Environmental Protection Agency)

Acutè Exposure Guideline Level(s) (AÉGL(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

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Dymax Corporation and its subsidiaries and affiliates (DYMAX). The information in this SDS relates only to the specific material designated herein. DYMAX assumes no legal responsibility for use of or reliance upon the

Page 11 / 12





Manufacturer:

Dymax®

Product Name:

Dymax OP-4-20641 UV Optical Adhesive (3ml)

Manufacturer Part Number:

OP-4-20641-3ML

Click here for more details on the Dymax OP-4-20641 UV Optical Adhesive (3ml)

OP-4-20641

 Issuing Date
 25-Jan-2024
 Revision date
 25-Jan-2024
 Revision Number
 33

information in this SDS.

End of Safety Data Sheet

Page 12 / 12



