SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Product name: Dimengel 400
Product description: Photo curable resin

1.2 Relevant identified uses of the substance or mixture and uses advised against
Common uses: Printing/additive manufacturing.

1.3 Details of the supplier of the safety data sheet
N/A

E-mail address of person responsible for this SDS: N/A

1.4 Emergency telephone number
Emergency telephone number (with hours of operation): N/A

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to GHS:
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Skin Sens. 1 H317
Aquatic Chronic 2 H411

Classification according to 29 CFR 1910.1200 (OSHA HCS):
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Skin Sens. 1 H317
Aquatic Chronic 2 H411

Classification according to Regulation (EC) No. 1272/2008 (CLP):
Skin irrit. 2 H315
Eye irrit. 2 H319
Skin Sens. 1 H317
Aquatic chronic 2 H411

See section 16 for the full text of the H-statements declared above.

2.2 Label elements
Labelling according to GHS:
Hazard pictogram(s):

Signal word: Warning

Hazard statement(s):
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Labelling according to 29 CFR 1910.1200 (OSHA HCS)
Hazard pictogram(s):

Signal word: Warning

Hazard statement(s):
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Labelling in accordance with Regulation 1272/2008 (CLP)
Hazard pictogram(s):

Signal word: Warning

Hazard statement(s):
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazard
Not available

SECTION 3: Composition / information on ingredients

3.2 Mixtures:

Ingredient name	Identifiers	%	CLP Classification	GHS Classification	OSHA HCS
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	CAS number: 72869-86-4 EC number: 276-957-5	30-66.5	Skin Sens. 1 H317 Aquatic Chronic 2 H411	Skin Sens. 1 H317 Aquatic Chronic 2 H411	Skin Sens. 1 H317 Aquatic Chronic 2 H411
Methacrylic acid, monoester with propane-1,2-diol	CAS umber: 27813-02-1 EC number: 248-666-3	6-19	Skin Sens. 1 H317 Eye Irrit. 2 H319	Skin Sens. 1 H317 Eye Irrit. 2 H319	Skin Sens. 1 H317 Eye Irrit. 2 H319
Exo-1,7,7-trimethylbicyclo [2.2.1]hept-2-yl methacrylate	CAS number: 7534-94-3 EC number: 231-403-1	6-19	Skin Irrit. 2 H315 STOT SE 3 H335 Aquatic Chronic 3 H412 Eye Irrit. 2 H319	Skin Irrit. 2 H315 STOT SE 3 H335 Aquatic Chronic 3 H412 Eye Irrit. 2 H319	Skin Irrit. 2 H315 STOT SE 3 H335 Aquatic Chronic 3 H412 Eye Irrit. 2 H319
Phenylbis (2,4,6-trimethylbenzoyl) phosphine oxide	CAS number: 162881-26-7 EC number: 423-340-5	0.1-2	Skin Sens. 1 H317 Aquatic Chronic 4 H413	Skin Sens. 1 H317 Aquatic Chronic 4 H413	Skin Sens. 1 H317 Aquatic Chronic 4 H413
Naphtha (petroleum)	CAS number: 64741-65-7 EC number: 265-067-2	<5	Flam. Liq. 3 H226 Asp. Tox. 1 H304 Aquatic Chronic 2 H411	Flam. Liq. 3 H226 Asp. Tox. 1 H304 Aquatic Chronic 2 H411	Flam. Liq. 3 H226 Asp. Tox. 1 H304 Aquatic Chronic 2 H411

See section 16 for the full text of the H-statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eyes contact: In case of contact with eyes, rinse immediately with plenty of soap and water for at least 15 minutes. Get medical attention.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes. Get medical attention.

Inhalation: Remove the victim from site of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. Get medical attention.

Ingestion: **Do not induce vomiting.** If victim is conscious, wash mouth thoroughly with water. Never give anything by mouth to an unconscious person. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See section 2.2 (Label elements) and/or section 11 (Toxicological information) for the most important known symptoms and effects.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable: Foam, carbon dioxide, dry chemical, water fog.
Not suitable: Do not use water jet.

5.2 Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating and toxic fumes.

5.3 Advice for firefighters
Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode. Use water spray/fog for cooling fire exposed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ventilate area of spill.

6.2 Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

6.4 Reference to other sections
See Section 1 for emergency contact information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapors, spray, mist or gas. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures. Avoid release to the environment.

7.2 Conditions for safe storage, including any incompatibilities
Storage: Keep container tightly closed in a dry, cool and well-ventilated place. Protected from direct sunlight. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store away from incompatible materials (See Section 10).

7.3 Specific end use(s): N/A

SECTION 8: Exposure control/personal protection

8.1 Control parameters

Occupational exposure limits values: N/A

8.2 Exposure controls

Engineering measures
Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protective measures

Respiratory protection: Suitable respirator. Be sure to use an approved/certified equipment or equivalent equipment. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear protective gloves to prevent skin exposure.

Eye protection: Wear protective safety glasses.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Not available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Gray thick liquid-gel
Odour: characteristic
Odour threshold: N/A
pH: N/A
Melting point/Freezing point: N/A
Initial boiling point/boiling range: >100°C
Flash point: >93°C
Evaporation rate: N/A
Flammability: N/A
Upper/lower flammability or explosive limits: N/A
Vapor pressure: N/A
Vapor density: N/A
Relative density: N/A
Solubility(ies): N/A
Partition coefficient Octanol/Water: N/A
Auto-ignition temperature: N/A
Decomposition temperature: N/A
Viscosity: 80,000-180,000 cP
Explosive properties: N/A
Oxidizing properties: N/A

9.2 Other information

Density: 1.17 g/cm^3

SECTION 10: Stability and reactivity

10.1 Reactivity

Not available

10.2 Chemical stability

The product is stable under normal handling and storage conditions described in Section 7.

10.3 Possibility of hazardous reactions

Hazardous reactions are not expected, under normal conditions of storage and use.

10.4 Conditions to avoid

Extreme heat, open flames, hot surfaces, sparks, ignition sources.

10.5 Incompatible materials

Polymerization initiators, including peroxides, strong oxidizing agents, alcohols, copper, copper alloys, carbon steel, iron, rust, and strong bases.

10.6 Hazardous decomposition products

Other decomposition products: not available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Test	Species	Dose
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	LD50, Oral LD50, Dermal	Rat Rat	>5000 mg/kg >2000 mg/kg
Methacrylic acid, monoester with propane-1,2-diol	LD50, Oral LD50, Dermal	Rat Rabbit	>2000 mg/kg >5000 mg/kg
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	LD50, Oral LD50, Dermal	Rat Rabbit	>2000 mg/kg >3000 mg/kg
Phenylbis(2,4,6-trimethylbenzoyl) phosphine oxide	LD50, Oral LD50, Dermal	Rat Rat	>2000 mg/kg >2000 mg/kg
Naphtha (petroleum)	LD50, Oral LC50, Inhalation LD50, Dermal	Rat Rat Rabbit	>5000 mg/kg > 4951 mg/l/4h >5000 mg/kg

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

Specific target organ toxicity (single exposure): Not available

Specific target organ toxicity (repeated exposure): Not available

Aspiration hazard: Not available

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	NOEC Desmodesmus subspicatus: 0.2 mg/l (72 h)	LC50/96h (Danio rerio) 10.1 mg/l	EC50/48h (Daphnia magna) 1.2 mg/l
Exo-1,7,7-trimethylbicyclo [2.2.1]hept-2-yl methacrylate	-	LC50/96h (Danio rerio) 1.79 mg/l	EC50/48h (Daphnia magna) 2.75 mg/l NOEC (Daphnia magna) 0.233 mg/l (21 days)
Phenylbis(2,4,6-trimethylbenzoyl) Phosphine oxide	ErC50/72h (Desmodesmus subspicatus) >0.26 mg/l	LC50/96h (Danio rerio) >0.09 mg/l	EC50/48h (Daphnia magna) >1.17 mg/l
Naphtha (petroleum)	EL50/72h (Pseudokirchneriella subcapitata) >1000 mg/l	LL50/96h (Oncorhynchus mykiss (rainbow trout)) >1000 mg/l	EL50/48 (Daphnia magna) >1000 mg/l

12.2 Persistence and Degradability
7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate: Not readily biodegradable: 22% in 28 days.

12.3 Bioaccumulative potential
Not available

12.4 Mobility in soil
Not available

12.5 Results of PBT and vPvB assessment
Not available

12.6 Endocrine disrupting properties
Not available

12.7 Other adverse effects
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Packing
Empty containers should be taken for local recycling, recovery or waste disposal.

SECTION 14: Transport information

14.1 Un number

ADR/RID: 3082	IMDG: 3082	IATA: 3082	DOT (US): 3082

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate)

IATA: Environmentally hazardous substance, liquid, n.o.s. (7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate)

DOT (US): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate)

14.3 Transport hazard class(es)

ADR/RID: 9	IMDG: 9	IATA: 9	DOT (US): 9

14.4 Packing group

ADR/RID: III	IMDG: III	IATA: III	DOT (US): III

14.5 Environmental hazard
Marine pollutant: yes

14.6 Special precautions for user
N/A

14.7 Transport to bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not available

SECTION 15: Regulatory information

This SDS complies with the following requirements of:
EU Regulation (EC) No.1907/2006 (REACH) including amendments
Regulation (EC) No.1272/2008 (CLP)
29 CFR 1910.1200 (OSHA HCS)
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

California Prop. 65 Components
To the best of our knowledge the product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA inventory
The substances in this product are included on or exempted from the TSCA inventory.

15.2 Chemical safety assessment
Not available

SECTION 16: Other information

Full text of Hazards Statements referred to in sections 2 and 3:
Flam. Liq. - Flammable liquid
Asp. Tox. - Aspiration hazard
Skin Irrit. - Skin irritation
Eye Irrit. - Eye irritation
Skin Sens. - Skin sensitization
STOT SE - Specific target organ toxicity — single exposure
Aquatic Chronic - Hazardous to the aquatic environment
H226: Flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H319: Causes eye irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H411: Toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.
H413: May cause long lasting harmful effects to aquatic life.

Training advice: Before using/handling the product one must read carefully present SDS.

Key Legend Information:
CAS- Chemical Abstract Service
ACGIH- American Conference of Governmental Industrial Hygienists
OSHA- Occupational Safety and Health Administration
NTP- National Toxicology program
IARC- International Agency for Research on Cancer
N/A- Not available
H-statements- Hazard statements
TLV- Threshold Limit Value
TWA- Time-weighted average
STEL- Short-Term Exposure Limit
CSA- Chemical safety assessment

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