

Safety Data Sheet

xMODEL 2505

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(11131793/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

xMODEL 2505

Recommended use of the chemical and restriction on use

Recommended use*: Stereolithography; Monomer in ultraviolet ink jet application; In an enclosed system

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

Nexa3D

Ventura, CA

USA

Contact address:

Nexa3D

1923 Eastman Ave., STE 200

Ventura, CA 93003

USA

Telephone: +1 805-465-9001

Emergency telephone number

24 Hour Emergency Response

Information ChemTel 1-800-255-3924 (US) / 1-813-248-0585 Contract MIS3892732

Other means of identification Chemical family:

Preparation based on: urethane, acrylates, Polymer

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT RE	2 (oral)	Specific target organ toxicity — repeated exposure
Skin Sens.	1B	Skin sensitization
Aquatic Acute	2	Hazardous to the aquatic environment - acute

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Aquatic Chronic	2	Hazardous to the aquatic environment - chronic
Acute Tox.	4 (oral)	Acute toxicity
Repr.	2 (fertility)	Reproductive toxicity
Repr.	2 (unborn child)	Reproductive toxicity

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated oral exposure.
H361	Suspected of damaging fertility. Suspected of damaging the unborn child.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P260	Do not breathe dust/gas/mist/vapours.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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Hazards not otherwise classified

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No specific dangers known, if the regulations/notes for storage and handling are considered.

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 11 %

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Acrylate derivative

CAS Number: Trade Secret

Content (W/W): ≥ 10.0 - $< 20.0\%$

Synonym: No data available.

Proprietary acrylate

CAS Number: Trade Secret

Content (W/W): ≥ 3.0 - $< 7.0\%$

Synonym: No data available.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

CAS Number: 75980-60-8

Content (W/W): ≥ 1.0 - $< 3.0\%$

Synonym: Diphenyl(2,4,6-trimethylbenzoyl)phosphineoxide

Phenyl acrylate

CAS Number: Trade Secret

Content (W/W): ≥ 20.0 - $< 50.0\%$

Synonym: No data available.

Proprietary acrylate

CAS Number: Trade Secret

Content (W/W): ≥ 3.0 - $< 20.0\%$

Synonym: No data available.

2-Propen-1-one, 1-(4-morpholinyl)-

CAS Number: 5117-12-4

Content (W/W): ≥ 15.0 - $< 20.0\%$

Synonym: No data available.

Urethane-acrylate oligomer

CAS Number: Trade Secret

Content (W/W): ≥ 3.0 - $< 5.0\%$

Synonym: No data available.

Titanium dioxide

CAS Number: 13463-67-7

Content (W/W): ≥ 0.1 - $< 0.3\%$

Synonym: C.I. Pigment White 6

4. First-Aid Measures

Description of first aid measures

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General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:

Wash affected areas thoroughly with soap and water. Seek medical attention.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Remove contact lenses, if present. Immediate medical attention required.

If swallowed:

Immediately rinse mouth and then drink 200 - 300 ml water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Information on: Acrylate derivative

Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Self-polymerization if overheated in a container.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

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Further information:

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure build up due to heat. Contaminated extinguishing water must be disposed of in accordance with official regulations. In case of a fire in the vicinity a restabilization system should be used if the temperature in the storage container reaches 45°C. Evacuate area of all unnecessary personnel. In case of a fire in the vicinity evacuate all personnel in a greater area if the temperature in the storage container reaches 60°C.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Avoid contact with the skin, eyes and clothing. Ensure adequate ventilation. Use personal protective clothing. Breathing protection required. Avoid all sources of ignition: heat, sparks, open flame.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. The substance/ product may be handled only by appropriately trained personnel. Ensure thorough ventilation of stores and work areas. Encapsulation or exhaust ventilation required. When filling, transferring, or emptying of containers, adequate local exhaust ventilation is necessary. Vent waste air to atmosphere only through suitable separators. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade. Because of the possible separation from the stabilizer the product should never be partially melted and taken. Ensure that there is no crystallized product in the container before use. Ensure adequate inhibitor and dissolved oxygen level. The temperatures which must be avoided are to be considered. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light.

Protection against fire and explosion:

Substance/product can form explosive mixture with air. It is recommended that all conductive parts of the machinery are grounded. Ground all transfer equipment properly to prevent electrostatic discharge. Containers should be grounded against electrostatic charge. Avoid all sources of ignition: heat, sparks, open flame. Vapours may form ignitable mixture with air. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity. Heated containers should be cooled to prevent polymerization. Sealed containers should be protected against heat as this results in pressure build-up. Avoid influence of heat.

Conditions for safe storage, including any incompatibilities

The product in undamaged packing need not be stored separately.

Further information on storage conditions: Protect against heat. Protect from the effects of light. The stabilizer is only effective in the presence of oxygen.

Protect from temperatures below: -15 °C

Protect from temperatures above: 40 °C

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8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Titanium dioxide	ACGIH, US:	TWA value 10 mg/m ³ ;
	OSHA Z1:	PEL 15 mg/m ³ Total dust ;
	OSHA Z1A:	TWA value 10 mg/m ³ Total dust ;

Advice on system design:

Provide local exhaust ventilation to control dusts/vapours.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. A NIOSH-certified respirator with an APF of at least 50 is required. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Wear chemically impervious protective gloves., Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness, chloroprene rubber (Neoprene), nitrile rubber (NBR) - 0.4 mm coating thickness, Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. Avoid inhalation. Handle in accordance with good industrial hygiene and safety practice. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Form:	Liquid with bottom solids
Odour:	acrylic-like
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	beige
pH value:	substance/mixture is non-soluble (in water)
Melting point:	No data available.
Boiling point:	> 93 °C
Sublimation point:	No applicable information available.
Flash point:	> 100 °C
Flammability:	not highly flammable (derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.

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Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	No data available.
Vapour pressure:	No data available.
Density:	1.1 g/cm ³ (20 °C)
Relative density:	No applicable information available.
Vapour density:	not determined
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures
Thermal decomposition:	195 °C, 354 kJ/kg Reaction heat in case of polymerization
Viscosity, dynamic:	65 mPa.s (30 °C)
Viscosity, kinematic:	No applicable information available.
Solubility in water:	sparingly soluble
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	soluble solvent(s): organic solvents,
Molar mass:	No applicable information available.
Evaporation rate:	No data available.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
not fire-propagating

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures. Reacts with peroxides and other radical components.
Risk of spontaneous polymerization when heated or in the presence of UV radiation. Polymerization coupled with heat formation. Radical formation can cause exothermic polymerization. Risk of spontaneous polymerization in the presence of radical donors.

Conditions to avoid

Avoid heat. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss.

Incompatible materials

radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, azides, aldehydes, ether, ketones, nitrites, nitrates, oxidizing agents, reducing agents, strong bases, acid anhydrides, acid chlorides, metal salts, mineral acids, Inert gas

Hazardous decomposition products

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Decomposition products:

Hazardous decomposition products: Gaseous products of degradation can be given off if the product is greatly overheated.

Thermal decomposition:

195 °C

Reaction heat in case of polymerization

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Oral

Type of value: ATE

Value: > 2,000 mg/kg

Inhalation

Type of value: ATE

Value: > 20 mg/l

Exposure time: 4 h

Determined for vapor

Type of value: ATE

Value: > 5 mg/l

Exposure time: 4 h

Determined for mist

Dermal

Type of value: ATE

Value: > 5,000 mg/kg

Assessment other acute effects

Based on available Data, the classification criteria are not met.

Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

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Assessment of repeated dose toxicity: Repeated exposure may affect certain organs.

Genetic toxicity

Assessment of mutagenicity: Based on the ingredients, there is no suspicion of a mutagenic effect.

Carcinogenicity

Assessment of carcinogenicity: Contains a compound classified as IARC Group 2B (possibly carcinogenic to humans). A clear indication of an increased risk of cancer in humans has so far not been shown. The whole of the information assessable provides no indication of a carcinogenic effect.

Information on: Titanium dioxide

Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term studies in rats in which the substance was given by inhalation, a carcinogenic effect was observed. Tumors were only observed in rats after chronic inhalative exposure to high concentrations which caused sustained lung inflammation. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. Dermal exposure is not expected to be carcinogenic.

Reproductive toxicity

Assessment of reproduction toxicity: Possible risk of impaired fertility. The product has not been tested. The statement has been derived from the properties of the individual components.

Teratogenicity

Assessment of teratogenicity: Possible risk of harm to the unborn child. The product has not been tested. The statement has been derived from the properties of the individual components.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. Toxic to aquatic organisms based on long-term (chronic) toxicity study data.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Product is not expected to be readily biodegradable.

Additional information

Add. remarks environm. fate & pathway:

Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:

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The product has not been tested. The statement has been derived from the properties of the individual components. The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Uncontaminated packaging can be re-used. Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains TRIMETHYLOLPROPANE TRIACRYLATE, (5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

Air transport

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains TRIMETHYLOLPROPANE TRIACRYLATE, (5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released; restriction on use / listed

TSCA §5. Based on EPA's assessment that includes analogue data, a substance in this product has the potential to cause:
Carcinogenicity;

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Genetic toxicity;
Specific target organ toxicity.
Hazard(s) not classifiable under GHS criteria.
This product contains a substance (CASRN 5117-12-4) which may cause internal organ and reproductive effects.
When using this product, use skin protection.
TSCA § 5(a) final Significant New Use Restriction (SNUR)
40 CFR 721.5185

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including TITANIUM DIOXIDE (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE), which is known to the State of California to cause cancer, and METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:

Health: 3 Fire: 1 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/04/21

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

xMODEL 2505 Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET