

Section 1 - IDENTIFICATION

Material Name: RIGUR RGD450

Manufacturer Information

21F Building B, Makuhari Techno Garden,
1-3 Nakase, Mihama-ku, Chiba-shi,
Chiba 261-8501, Japan
phone: +81-43-212-3302

〒261-8501
千葉県千葉市美浜区中瀬一丁目3番地
幕張テクノガーデンB棟21階
電話番号 043-212-3302

24 Hour Emergency Telephone Service

+49 722 97772280 - Europe - Multi lingual response
+49 722 97772281 - Global - English Language response
+1 978 495 5580 - USA - Multi lingual response
+85 2 975 70887 - Asia Pacific - Multi lingual response
+61 2 8011 4763 - Australia - Multi lingual response
+86 15626070595 - China - Chinese response

24時間緊急時連絡先

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+49 722 97772281 – グローバル – 英語対応
+1 978 495 5580 – アメリカ合衆国 – 多言語対応
+85 2 975 70887 – アジア太平洋 – 多言語対応
+61 2 8011 4763 – オーストラリア – 多言語対応
+86 15626070595 – 中国 – 中国語対応

objet-info@stratasys.com
www.stratasys.com

Chemical Family

acrylic compounds

Product Use

This product is a cartridge containing ink. Under normal conditions of use, the substance is released from a cartridge only inside an appropriate printing system, and therefore, exposure is limited.

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In compliance with Japanese
regulation and the GHS.

Restrictions on Use

None known.

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Oral), Category 4
Eye Damage / Irritation, Category 1
Skin sensitizer, Category 1
Specific Target Organ Toxicity - Repeated Exposure, Category 2 (organs)

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

Harmful if swallowed
Causes serious eye damage
May cause an allergic skin reaction
May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s)

Prevention

Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breathe vapor or fumes. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage

None needed according to classification criteria.

Disposal

Dispose in accordance with all applicable regulations.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
5117-12-4	Morpholine, 4-(1-oxo-2-propenyl)-	<45
42594-17-2	Dicyclopentylidimethylene diacrylate	<30
41637-38-1	Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propenyl)oxy]-	<25

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5888-33-5	2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-	<5
947-19-3	Methanone, (1-hydroxycyclohexyl)phenyl-	<3
Trade Secret	Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	<2
13463-67-7	Titanium dioxide	<0.8

Substance/mixture

* * *Section 4 - FIRST AID MEASURES* * *

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Note to Physicians

If adverse effects occur, treat symptomatically and supportively.

Symptoms: Immediate

eye damage, allergic skin reaction

Symptoms: Delayed

allergic skin reaction, May cause damage to organs through prolonged or repeated exposure

* * *Section 5 - FIRE FIGHTING MEASURES* * *

See Section 9 for Flammability Properties

Extinguishing Media

Use extinguishing agents appropriate for surrounding fire. Class B fires: Use carbon dioxide (CO₂), regular dry chemical (sodium bicarbonate), regular form (Aqueous Film Forming Foam-AFFF), or water spray to cool containers.

Unsuitable Extinguishing Media

None known.

Flammable Properties

Slight fire hazard.

Fire Fighting Measures

Hazardous Combustion Products

Combustion: None known.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions

See Section 8 for personal protection information. Avoid release to the environment.

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Environmental Precautions

Methods and Materials for Containment and Cleanup

Intact cartridges do not pose a leak or spill hazard. Damaged cartridges may leak uncured ink. Stop leak if possible without personal risk. Reduce vapors with water spray. Absorb with sand or other non-combustible material. Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Dispose in accordance with all applicable regulations. Keep out of water supplies and sewers. Flush spill area with water.

Section 7 - HANDLING AND STORAGE

Handling Procedures

Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear protective gloves and eye/face protection. Avoid breathing vapors or fumes. Contaminated work clothing should not be allowed out of the workplace.

Storage Procedures

Store in accordance with all current regulations and standards. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store between 15 °C and 25 °C (59 °F and 77 °F). Shipment temperature (up to 5 weeks) is -20°C (-4°F) to 50°C (122°F). Store in a combustible storage area away from heat and open flame. Store in a cool, dry place. Avoid direct sunlight. Keep in the dark. Keep separated from incompatible substances.

Incompatibilities Not applicable

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Titanium dioxide (13463-67-7)

ACGIH: 10 mg/m³ TWA

Component Analysis

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection

Eye protection not required under normal conditions. Chemical goggles or safety glasses with side shields should be worn when handling a damaged cartridge.

Body Protection

Protective clothing is not required under normal conditions. Wear neoprene or nitrile impervious gloves when handling damaged cartridge. Wash contaminated clothing before reuse.

Hands protection

Wear neoprene or nitrile impervious gloves when handling damaged cartridge.

Respiratory Protection

Respiratory protection is not generally needed when using this product.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

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Physical State:	Liquid	Appearance:	cartridge containing white liquid
Color:	white	Physical Form:	liquid
Odor:	characteristic odor	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Decomposition:	Not available
Flash Point:	>100 C	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	Not available	Vapor Density (air = 1):	Not available
Density:	Not available	Specific Gravity (water = 1):	Not available
Water Solubility:	Not available	Log KOW:	Not available
Coeff. Water/Oil Dist:	Not available	Auto Ignition:	Not available
Viscosity:	Not available	Volatility:	Not available

Other Property Information

No additional information is available.

* * *Section 10 - STABILITY AND REACTIVITY* * *

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal conditions of use. Store between 15 °C and 25 °C (59 °F and 77 °F).

Possibility of Hazardous Reactions

Uncured ink will polymerize on exposure to light or heat rendering the product unusable. However, this reaction is not considered hazardous.

Conditions to Avoid

Avoid exposure to heat and light.

Incompatible Materials

Not applicable

Hazardous Decomposition

Combustion: None known.

* * *Section 11 - TOXICOLOGICAL INFORMATION* * *

Acute and Chronic Toxicity

No hazard is expected from the normal use of this product. While unlikely, uncured ink may leak from damaged ink cartridges and cause skin and eye irritation. Contact with skin may cause tingling sensation or skin irritation. Contact with eyes may cause eye irritation, inflammation, or eye damage.

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Titanium dioxide (13463-67-7)

Oral LD50 Rat >10000 mg/kg

Immediate Effects

eye damage, allergic skin reaction

Delayed Effects

May cause damage to organs through prolonged or repeated exposure, allergic skin reaction

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Skin Corrosivity/Irritation Data

Contact with uncured ink may cause eye damage and skin irritation.

Serious Eye Damage/Eye Irritation

Respiratory Sensitizer

No data available for the mixture.

Dermal Sensitizer

Component data indicate the substance is sensitizing. Uncured ink may cause an allergic response in sensitized individuals.

Germ Cell Mutagenic Data

No data available for the mixture.

Carcinogenicity

Component Carcinogenicity

Titanium dioxide (13463-67-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 93 [2010]; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))

DFG: Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles)

Although Titanium Dioxide is classifiable by IARC as 2b carcinogen, under normal conditions of use carcinogenicity status will not be present as TiO₂ will be suspended in a liquid.

Reproductive Effects Data

No data available for the mixture.

Tumorigenic Data

No data available for the mixture.

Specific Target Organ Toxicity - Single Exposure

eyes, skin, respiratory system

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure

Aspiration Hazard

No data available for the mixture.

Medical Conditions Aggravated by Exposure

None known.

Additional Data

Uncured ink may polymerize and adhere to tissue.

* * *Section 12 - ECOLOGICAL INFORMATION* * *

Ecotoxicity

No data available.

Persistence and Degradability

No data available for the product.

Bioaccumulation Potential

No data available.

Mobility in Soil

No data available.

Hazardous to ozone layer

No data available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Disposal Guidelines

Dispose in accordance with all applicable regulations. Refer to manufacturer/supplier for information on recovery/recycling. Do not landfill. Avoid discharge into drains or surface water. See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. Hazardous Waste Number(s): 08 03 12*

Section 14 - TRANSPORT INFORMATION

Transportation

Not regulated as a hazardous material.

IATA Information

No Classification assigned.

ICAO Information

No Classification assigned.

IMDG Information

No Classification assigned.

Component Analysis

Titanium dioxide (13463-67-7)

Category Z (slurry)

Special precautions

Domestic Regulations

Group 4 Flammable liquid Class 3 petroleum

Transportation of the materials shall be conducted in accordance with the technical standards specified by the local regulation with regard to the container, loading method and method of transportation.

Section 15 - REGULATORY INFORMATION

Japan Regulations

Industrial Safety and Health Law

The following substances are recognized as harmful according to the Enforcement Order of Industrial Safety and Health as administered by the Industrial Safety and Health Department in the Labor Standards Bureau of the ministry of Health, Labour and Welfare of Japan:

Titanium dioxide (13463-67-7)

SDS preparation is required: >1 % weight

Japan Designated Chemical Substances (PRTR Law)

No components are subject to reporting requirements as specified by the "Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" and are not included in the "Pollutant Release and Transfer Register (PRTR)" of designated chemicals.

Chemical Substance Control Law

Titanium dioxide (13463-67-7)

Non-biodegradable/Low bioconcentration

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Marine Pollution Prevention Law

The following component(s) are listed on the Marine Pollution Prevention Law:

Titanium dioxide (13463-67-7)

Present

Component Analysis - Inventory

Component	CAS	MITI
Morpholine, 4-(1-oxo-2-propenyl)-	5117-12-4	Yes
Dicyclopentylidimethylene diacrylate	42594-17-2	Yes
Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propenyl)oxy]-	41637-38-1	Yes
2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-	5888-33-5	Yes
Methanone, (1-hydroxycyclohexyl)phenyl-	947-19-3	Yes
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	Trade Secret	Yes
Titanium dioxide	13463-67-7	Yes

Fire Service Law

The material is subject to specific limitations on storage and handling to minimize the damage done by fire, earthquake or other disasters and set forth by the Fire Service Law when its quantity exceeds designated quantity. Group 4 Flammable liquid - Third class petroleum, soluble/Insoluble, III, Designated quantity 2,000 L.

Fire Service Law

The following components are subject to specific limitations on storage and handling to minimize the damage done by fire, earthquake or other disasters and set forth by the Fire Service Law. The classification below applies only to specific components of this product, not to this product as a whole.

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)

Hazardous Materials: Group 4 - Flammable liquids III

Poly(oxy-1,2-ethanediyl), α,α' -[(1-methylethylidene)di-4,1-phenylene]bis[ω -[(2-methyl-1-oxo-2-propenyl)oxy]- (41637-38-1)

Hazardous Materials: Group 4 - Flammable liquids III

2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- (5888-33-5)

Hazardous Materials: Group 4 - Flammable liquids III

* * *Section 16 - OTHER INFORMATION* * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; Kow - Octanol/water partition coefficient; LEL - Lower Explosive Limit; RID - European Rail Transport; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TWA - Time Weighted Average; UEL - Upper Explosive Limit

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Other Information

The information in this safety data sheet is based on data and samples provided to a third party SDS author. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned in this safety data sheet. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question.

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