

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Rigur™, RGD450

Other means of identification

Product Code(s) SDS-06161 EN A

PN (Part Number) OBJ-03308, OBJ-03309, OBJ-04066, OBJ-06263

UN number or ID number UN3082

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Printing inks

Uses advised against 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

Details of the supplier of the safety data sheet

Manufacturer Address

Stratasys Corporate headquarters United States
9600 West 76th Street Suite #108
Eden Prairie, MN 55344
United States
Local: +1 952-294-3900
Phone: +1 952-937-3000

Emergency telephone number

Emergency Telephone +1 215 207 0061 - Americas - Multi lingual response 24/7

E-mail address info@Stratasys.com

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Danger**Hazard statements**

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

**Appearance** Ink cartridge**Physical state** Liquid**Odor** Characteristic**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Contaminated work clothing must not be allowed out of the workplace
 Do not breathe vapor
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/eye protection/face protection

Precautionary Statements - 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
 Immediately call a POISON CENTER or doctor
 IF ON SKIN: Wash with plenty of water and soap
 Take off contaminated clothing and wash it before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 Call a POISON CENTER or doctor if you feel unwell
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
 Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical name	CAS No	Weight-%	Proprietary
Proprietary	Proprietary	30-50	*
Proprietary	Proprietary	10-30	*
Proprietary	Proprietary	10-30	*
Proprietary	Proprietary	3-10	*
Caprolactone acrylate	110489-05-9	1-3	*
Proprietary	Proprietary	0.3-1	*
Acrylic acid, 2-hydroxyethyl ester	818-61-1	0.1-0.3	*
2-Propenoic acid, 1,2-ethanediyl ester	2274-11-5	0.1-0.3	*
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol	128-37-0	0.1-0.3	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. IF exposed or concerned: Get medical advice/attention.
Eye contact	Get immediate medical advice/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.
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.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing agent suitable for type of surrounding fire. Class B fires: Use carbon dioxide (CO ₂), regular dry chemical (sodium bicarbonate), regular foam (Aqueous Film Forming Foam-AFFF), or water spray to cool containers.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Explosion data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

Special protective equipment for fire-fighters Cool containers with flooding quantities of water until well after fire is out. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Move containers from fire area if you can do it without risk. Use personal protection equipment. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Keep out of drains, sewers, ditches and waterways. Inhalation is a health risk.

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

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid breathing vapors or mists. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Do not eat, drink or smoke when using this product. Heating may cause a fire.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store in a cool, well ventilated area. Store in accordance with local regulations. Keep container tightly closed. Store between 15 °C and 27 °C. Shipment temperature (up to 5 weeks) is -20 °C to 50 °C. Store in a combustible storage area away from heat and open flame.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure

limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	TWA: 2 mg/m ³ inhalable fraction and vapor	(vacated) TWA: 10 mg/m ³	TWA: 10 mg/m ³

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand Protection Wear suitable gloves. Impervious gloves.

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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance Ink cartridge
Odor Characteristic
Color White
Odor threshold No information available

Explosive properties No data available
Oxidizing properties No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	N/A	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	135 °C / 275 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	Not applicable	None known
Flammability Limit in Air		None known
Upper flammability limit:	Not applicable	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.11	g/cm ³
Water solubility	Insoluble in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
<u>Other information</u>		

Softening point	No data available
Molecular weight	No data as a mixture
VOC Content (%)	No information available
Liquid Density	No data available
Bulk density	No data available

10. STABILITY AND REACTIVITY

Reactivity	Heating may cause a fire.
Chemical stability	Decomposes on exposure to light. Unstable if heated.
Possibility of hazardous reactions	Uncured ink will polymerize on exposure to light.
Conditions to avoid	Avoid exposure to heat and light.
Incompatible materials	Not applicable under normal conditions of use and storage.
Hazardous decomposition products	Thermal Decomposition Products. Combustion: oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract. (based on components).
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. (based on components).
Skin contact	May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

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.
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Numerical measures of toxicity

Acute toxicity

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

ATEmix (oral) 1,408.80 mg/kg

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary	= 588 mg/kg (rat)	> 2000 mg/kg (rat)	= 5.28 mg/l (rat)
Proprietary	= 2.000 mg/kg (Rat) (Method: OECD Test Guideline 423)	= 2.000 mg/kg (Rat)(Method: OECD Test Guideline 402)	-
Proprietary	= 4890 mg/kg = 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
Proprietary	> 2000 mg/kg	> 2000 mg/kg (Rat)	-

	> 2000 mg/kg (Rat)		
Acrylic acid, 2-hydroxyethyl ester 818-61-1	= 548 mg/kg = 548 mg/kg (Rat)	> 1000 mg/kg (Rat)	-
2-Propenoic acid, 1,2-ethanediyl ester 2274-11-5	= 300 mg/kg = 300 mg/kg (Rat)	-	-
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	> 2930 mg/kg > 2930 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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. Classification based on data available for ingredients.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	-	Group 3	-	-

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity	No information available.
STOT - single exposure	Classification based on data available for ingredients.
STOT - repeated exposure	Classification based on data available for ingredients.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Proprietary	120 mg/l (algae)	-	-	120 mg/kg (daphnia)
Proprietary	(Pseudokirchneriella subcapitata) : 1,6 mg/l (Method: OECD Test Guideline 201)	(Fish) : 4,95 mg/l	-	(Daphnia magna Straus) : 2,36 mg/l (Method: OECD Test Guideline 202)
Proprietary	1.98 mg/l Fresh water	0.704 mg/l Fresh water	-	0.524 mg/l Fresh water
Proprietary	-	90: 96 h Danio rerio µg/L LC50 semi-static	-	-
Acrylic acid, 2-hydroxyethyl ester	-	4.8: 96 h Pimephales promelas mg/L LC50	-	0.78: 48 h Daphnia magna mg/L EC50

818-61-1		flow-through		
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	6: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.42: 72 h Desmodemus subspicatus mg/L EC50	-	-	-

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Acrylic acid, 2-hydroxyethyl ester 818-61-1	0.21
2,6-Bis(1,1-Dimethylethyl)-4-Methyl-Phenol 128-37-0	4.17

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number U008 U056 U220

14. TRANSPORT INFORMATION

Additional information The environmentally hazardous substance mark is not required when transported in sizes of ≤5L or ≤5kg The marine pollutant mark is not required when transported in sizes of ≤5L or ≤5kg

DOT

UN number or ID number UN3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
Special Provisions 8, 146, 173, 335, 441, IB3, T4, TP1, TP29
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, Marine pollutant
Emergency Response Guide Number 171

TDG

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III

MEX

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Special Provisions 274, 331, 335
Packing group III
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III

ICAO (air)

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
Special Provisions A97, A158, A197, A215
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III

IATA

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
ERG Code 9L
Special Provisions A97, A158, A197
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III

IMDG

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
EmS-No F-A, S-F
Special Provisions 274, 335, 969
Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to
 IMDG/IMO
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III, Marine pollutant

RID

UN number or ID number UN3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9
Packing group III
Classification code M6
Special Provisions 274, 335, 375, 601
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate,
 Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III
Labels 9

ADR

UN number or ID number 3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es) 9

Packing group	III
Classification code	M6
Tunnel restriction code	(-)
Special Provisions	274, 335, 601, 375
Description	3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate, Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate), 9, III
Labels	9

ADN

UN number or ID number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	9
Packing group	III
Classification code	M6
Special Provisions	274, 335, 375, 601
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate, Octamethylcyclotetrasiloxane), 9, III
Hazard label(s)	9
Limited quantity (LQ)	5 L

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	No information available
AIIC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Titanium dioxide - 13463-67-7	Carcinogen
TOLUENE - 108-88-3	Developmental

U.S. State Right-to-Know Regulations

US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Acrylic acid, 2-hydroxyethyl ester 818-61-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 3	Flammability 1	Instability 0	Special hazards -
HMIS	Health hazards 3*	Flammability 1	Physical hazards 0	Personal protection X
Chronic Hazard Star Legend	* = Chronic Health Hazard			

Revision Date 02-Feb-2023

Revision Note No information available.

Disclaimer

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