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Revision F

**Section 1: PRODUCT AND COMPANY IDENTIFICATION****Product identifier****Product Name** VeroClear, RGD810**Product Code(s)** SDS-06119 EN Z**Other means of identification****Proper Shipping Name** OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (2-Propenoic acid)**UN Number** UN3082**Pure substance/mixture** Mixture**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****Importer**Stratasys AP Limited  
7/F, C-BONS International Center  
108 Wai Yip Street, Kwun Tong  
Kowloon Hong Kong  
+852 3944 8888**For further information, please contact****Contact Point** Product Safety Department**E-mail address** info@Stratasys.com**Emergency telephone number****Emergency Telephone**

- +44 1865 407333 - Global – English Language response
- +44 1235 239670 - Europe - Multi lingual response
- +1 215 207 0061 - USA – Multi-lingual response
- +65 3158 1074 - Asia Pacific - Multi lingual response
- +61 2 8014 4558 - Australia - English Language response
- +86 512 8090 3042 - China - Chinese response

**Section 2: HAZARDS IDENTIFICATION****ERMA New Zealand HSNO approval code or group standard** HSR002670**Dangerous Goods Class** Hazard Class 9 Packing group III**GHS Classification**

Acute toxicity - Oral	Category 4 (HSNO - 6.1D)
Acute toxicity - Dermal	Category 5 (HSNO - 6.1E)
Serious eye damage/eye irritation	Category 1 (HSNO - 8.3A)
Skin sensitisation	Category 1B (HSNO - 6.5B)
Reproductive toxicity	Category 2 (HSNO - 6.8B)
Specific target organ toxicity (repeated exposure)	Category 2 (HSNO - 6.9B)
Acute aquatic toxicity	Category 1 (HSNO - 9.1A)
Chronic aquatic toxicity	Category 1 (HSNO - 9.1A)

**Label elements****Signal word**

Danger

**Hazard statements**

H302 - Harmful if swallowed  
 H313 - May be harmful in contact with skin  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H361 - Suspected of damaging fertility or the unborn child  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Do not breathe dust/fume/gas/mist/vapours/spray  
 Avoid release to the environment  
 IF exposed or concerned: Get medical advice/attention  
 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  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth  
 Collect spillage  
 Store locked up  
 Dispose of contents/container to an approved waste disposal plant

**Other hazards**

May cause respiratory irritation  
 No information available

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

Chemical name	CAS No	Weight-%
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	5888-33-5	10-30
4-(1-Oxo-2-propenyl)-morpholine	5117-12-4	10-30
Proprietary	-	10-30
Proprietary	-	3-10
Proprietary	-	3-10
Proprietary	-	1-3
Proprietary	-	1-3
2-Propenoic acid	79-10-7	0.1-0.3
Glycerol, propoxylated, esters with acrylic acid	52408-84-1	0.1-0.3
Non-hazardous ingredients	Proprietary	Balance

**Additional information**

This product requires tactile warnings if supplied to the general public

### Section 4: FIRST AID MEASURES

**Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	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.
<b>Skin contact</b>	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 doctor.
<b>Ingestion</b>	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 doctor.
<b>Self-protection of the first aider</b>	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 doctors** May cause sensitisation in susceptible persons. Treat symptomatically.

### Section 5: FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable Extinguishing Media** Use extinguishing agent suitable for type of surrounding fire. Class B fires: Use carbon dioxide (CO<sub>2</sub>), regular dry chemical (sodium bicarbonate), regular foam (Aqueous Film Forming Foam-AFFF), or water spray to cool containers.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the** No information available.

chemical

**Special protective actions for fire-fighters**

**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.

## Section 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.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**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 labelled containers.

**Precautions to prevent secondary hazards**

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

## Section 7: HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**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.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** 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.

**Incompatible materials** None known based on information supplied.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** .

Chemical name	New Zealand
2-Propenoic acid 79-10-7	TWA: 2 ppm TWA: 5.9 mg/m <sup>3</sup> Skin

**Biological occupational exposure limits** Not applicable.

#### 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.

**Skin and body protection** Wear suitable protective 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.

**Environmental exposure controls** No information available.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

**Physical state** liquid  
**Appearance** Ink cartridge  
**Odour** Characteristic.  
**Colour** clear  
**Odour threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	N/A	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	No data available	None known
<b>Flash point</b>	>= 100 - < 250 °C	
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability limit:</b>	No data available	
<b>Lower flammability limit</b>	No data available	
<b>Vapour pressure</b>	No data available	None known
<b>Vapour density</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Water solubility</b>	Insoluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	No information available.	
<b>Oxidising properties</b>	No information available.	

**Other Information**

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available
<b>Particle Size</b>	No information available
<b>Particle Size Distribution</b>	No information available

## Section 10: STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Heating may cause a fire.

**Chemical stability**

**Stability** Decomposes on exposure to light. Unstable if heated.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous decomposition products**

**Hazardous decomposition products** Thermal Decomposition Products. Combustion: oxides of carbon.

## Section 11: TOXICOLOGICAL INFORMATION

**Acute toxicity****Information on likely routes of exposure****Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed. (based on components).

**Symptoms** Redness. Burning. May cause blindness. Itching. Rashes. Hives.

**Numerical measures of toxicity - Product Information**

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

<b>ATEmix (oral)</b>	1,719.00 mg/kg
<b>ATEmix (dermal)</b>	4,290.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	54.30 mg/l

**Unknown acute toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	= 4890 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	-
4-(1-Oxo-2-propenyl)-morpholine	= 588 mg/kg (rat)	> 2000 mg/kg (rat)	= 5.28 mg/l (rat)
Proprietary	(Rat) LD50 = 1,590 - 3,910 mg/kg	(Rabbit) LD50 = > 2,000 mg/kg	(Rat) 1 h LC0 = 6.7 mg/l
Proprietary	= 2.000 mg/kg (Rat) (Method: OECD Test Guideline 423)	= 2.000 mg/kg (Rat)(Method: OECD Test Guideline 402)	-
Proprietary	>2000 mg/kg (Rat)	>2000 mg/kg	-
Proprietary	rat (oral): > 2,500 mg/kg (OECD Guideline 423)	> 5,000 mg/kg (OECD Guideline 402)	> 1 mg/l 4 h (OECD Guideline 403)
Proprietary	> 5,000 mg/kg (Rat) (OECD Guideline 401)	> 2,000 mg/kg (Rat) (OECD Guideline 402)	-
2-Propenoic acid	= 193 mg/kg ( Rat ) = 33500 µg/kg ( Rat )	= 295 mg/kg ( Rabbit ) = 280 µL/kg ( Rabbit )	= 3.6 mg/L ( Rat ) 4 h = 11.1 mg/L ( Rat ) 1 h

See section 16 for terms and abbreviations

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

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Sensitisation</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

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

Chemical name	New Zealand	IARC
2-Propenoic acid - 79-10-7		Group 3

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity****Ecotoxicity** Very toxic to aquatic life with long lasting effects**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	1.98 mg/l Fresh water	0.704 mg/l Fresh water	0.524 mg/l Fresh water
4-(1-Oxo-2-propenyl)-morpholine	120 mg/l (algae)	-	120 mg/kg (daphnia)
Proprietary	Pseudokirchneriella subcapitata (green algae) 96 h EC50 = 0.17 mg/l	Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 27 mg/l	Daphnia magna (Water flea) 48 h EC50 = 95 mg/l
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	14.4 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)	24 mg/l, Brachydanio rerio (Directive 92/69/EEC, C.1, static)	53.9 mg/l, Daphnia magna (OECD Guideline 202, part 1, semistatic)
Proprietary	> 2.01 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)	6.53 mg/l, Oryzias latipes (JIS K 0102-71, semistatic)	3.53 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
2-Propenoic acid	0.04: 72 h Desmodesmus subspicatus mg/L EC50 0.17: 96 h Pseudokirchneriella subcapitata mg/L EC50	222: 96 h Brachydanio rerio mg/L LC50 semi-static	95: 48 h Daphnia magna mg/L EC50 270: 24 h Daphnia magna mg/L LC50 Static

**Persistence and degradability****Persistence and degradability** No information available.**Bioaccumulative potential****Bioaccumulation** There is no data for this product.**Mobility****Mobility in soil** No information available.**Mobility** No information available.

Chemical name	Partition coefficient
2-Propenoic acid	0.46

**Other adverse effects****Other adverse effects** No information available.**Section 13: DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.**Contaminated packaging** Do not reuse empty containers.**Section 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

**Road transport****ADG**

**UN Number** UN3082  
**Proper Shipping Name** OTHER REGULATED SUBSTANCES, LIQUID, N.O.S.  
**Hazard Class** 9  
**Packing group** III  
**Environmental Hazard** Yes  
**Special Provisions** 179, 274, 331, 335, AU01  
**Description** UN3082, OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (2-Propenoic acid), 9, III

**IATA**

**UN Number** UN3082  
**Transport hazard class(es)** 9  
**Packing group** III  
**ERG Code** 9L  
**Special Provisions** A197  
**Description** &UN3082, & (<TNI00058>), 9, III

**IMDG**

**UN Number** UN3082  
**Transport hazard class(es)** 9  
**Packing group** III  
**EmS-No** F-A, S-F  
**Special Provisions** 274, 335, 969  
**Description** &UN3082, & (<TNW00151>, STABILIZER), 9, III, <TWRP0001>

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No information available



## Section 15: REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****New Zealand**

**National Regulations** See section 8 for national exposure control parameters

**ERMA New Zealand HSNO approval code or group standard** HSR002670

Chemical name	New Zealand HSNO Chemical Classification
4-(1-Oxo-2-propenyl)-morpholine - 5117-12-4	6.3A,6.4A
Proprietary -	6.1E oral,6.4A,9.1D fish
2-Propenoic acid - 79-10-7	3.1C,6.1C dermal,6.1C oral,6.1D inhalation,6.5B contact,6.9A inhalation,8.2B,8.3A,9.1A algal,9.1D crustacean,9.1D fish,9.3B
Glycerol, propoxylated, esters with acrylic acid - 52408-84-1	6.1E inhalation,6.3A,6.4A 6.3A,6.4A

**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	No information available
ENCS	Complies
IECSC	Complies
KECL	No information available
PICCS	No information available
AICS	Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

**Section 16: OTHER INFORMATION**

**Revision Date** 08-Nov-2017

**Revision Note**

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

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Disclaimer**

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**End of Safety Data Sheet**