

Issuing Date 07-Feb-2019

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Revision Number 3

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name VeroCyanV, RGD845**Product Code(s)** SDS-06210 EN Z**PN (Part Number)** OBJ-03354

Other means of identification

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate,
(Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate)**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

Objective3D Ltd
BDO Taranaki Limited
10 Young Street
New Plymouth, New Plymouth 4310
New Zealand
Phone: +64 9 801 0380

For further information, please contact

Contact Point Product Safety Department**E-mail address** info@Stratasys.com

Emergency telephone number

Emergency Telephone +64 9 929 1483 - New Zealand - English Language response

Section 2: HAZARDS IDENTIFICATION

ERMA New Zealand HSNO approval code or group standard HSR002670 - Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2017

GHS Classification

Acute toxicity - Oral	Category 5 (HSNO - 6.1E)
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Skin corrosion/irritation	Category 2 (HSNO - 6.3A)
Serious eye damage/eye irritation	Category 1 (HSNO - 8.3A)
Skin sensitisation	Category 1B (HSNO - 6.5B)
Specific target organ toxicity (repeated exposure)	Category 2 (HSNO - 6.9B)
Acute aquatic toxicity	Category 2 (HSNO - 9.1D)
Chronic aquatic toxicity	Category 2 (HSNO - 9.1B)

Label elements**Signal word**

Danger

Hazard statements

H303 - May be harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H373 - May cause damage to organs through prolonged or repeated exposure

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Contaminated work clothing should not be allowed out of the workplace

Do not breathe dust/fume/gas/mist/vapours/spray

Avoid release to the environment

Precautionary Statements - Response

Call a POISON CENTER or doctor/physician 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/physician

IF ON SKIN: Wash with plenty of soap and water

Take off contaminated clothing and wash it before reuse

If skin irritation or rash occurs: Get medical advice/attention

Collect spillage

Precautionary Statements - Disposal

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-%
Proprietary	-	10-30
Proprietary	-	10-30

Proprietary	-	10-30
Proprietary	-	10-30
Proprietary	-	3-10
Proprietary	-	1-3
camphene	79-92-5	0.1-0.3
Glycerol, propoxylated, esters with acrylic acid	52408-84-1	0.1-0.3
Ethoxylated Trimethylolpropane Triacrylate	28961-43-5	0.1-0.3
Acrylic acid	79-10-7	0.1-0.3
Non-hazardous ingredients	Proprietary	Balance

Section 4: FIRST AID MEASURES

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
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 doctor.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
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.
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Indication of any immediate medical attention and special treatment needed

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.
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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 ₂), 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 chemical	Product is or contains a sensitiser. May cause sensitisation by skin contact.
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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
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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 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 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 Avoid breathing vapours 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.

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.

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 Not applicable under normal conditions of use and storage.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	New Zealand
Acrylic acid 79-10-7	TWA: 2 ppm TWA: 5.9 mg/m ³ 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. 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.

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 blue
Odour threshold No information 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	>= 100 - < 250 °C	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	1.10	g/cm3
Water solubility	Insoluble in water	
Solubility(ies)	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
Explosive properties	No information available.	
Oxidising properties	No information available.	

Other Information

Softening point No information available
Molecular weight No information available
VOC Content (%) No information available

Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

Reactivity

Reactivity	Heating may cause a fire.
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Chemical stability

Stability	Decomposes on exposure to light. Unstable if heated.
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Explosion data

Sensitivity to Mechanical Impact	None.
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Sensitivity to Static Discharge	None.
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Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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Conditions to avoid

Conditions to avoid	Avoid exposure to heat and light. Uncured ink will polymerize on exposure to light.
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Incompatible materials

Incompatible materials	Not applicable under normal conditions of use and storage.
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Hazardous decomposition products

Hazardous decomposition products	Thermal Decomposition Products. Combustion: oxides of carbon.
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Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

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 sensitisation 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. (based on components).
Symptoms	Redness. Burning. May cause blindness. Itching. Rashes. Hives. May cause redness and tearing of the eyes.

Numerical measures of toxicity - Product Information

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

ATEmix (oral) 2,603.34 mg/kg 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
Proprietary	= 4890 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	-
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	(Rat) LD50 = 1,590 - 3,910 mg/kg	(Rabbit) LD50 = > 2,000 mg/kg	(Rat) 1 h LC0 = 6.7 mg/l
Proprietary	>2000 mg/kg (Rat)	>2000 mg/kg	-
camphene	> 5 g/kg (Rat)	> 2500 mg/kg (Rabbit)	= 17100 mg/m ³ (Rat) 1 h
Ethoxylated Trimethylolpropane Triacrylate	-	> 13 g/kg (Rabbit)	-
Acrylic 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

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.

Sensitisation No information available.

Respiratory or skin sensitisation May cause sensitisation 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	New Zealand	IARC
Acrylic acid - 79-10-7		Group 3

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

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity 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
Proprietary	1.98 mg/l Fresh water	0.704 mg/l Fresh water	0.524 mg/l Fresh water
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	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
camphene	1000: 72 h Desmodesmus subspicatus mg/L EC50	0.72: 96 h Brachydanio rerio mg/L LC50 flow-through 150: 96 h Brachydanio rerio mg/L LC50 static	22: 48 h Daphnia magna mg/L EC50
Acrylic 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
Acrylic 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 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class 9
Packing group III
Environmental Hazard Yes

Special Provisions 179, 274, 331, 335, AU01
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate,
 (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III

IATA

UN 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.
 (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate,
 (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III

IMDG

UN 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.
 (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate,
 (Octahydro-4,7-methano-1H-indenediyl)bis(methylene)diacrylate), 9, III, Marine pollutant

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****Exposure Limits**

See Section 8 for any applicable Tolerable Exposure or Environmental Exposure Limits

Certified handlers, tracking and controlled substance licence requirements

- Certified handlers are required for some substances. This includes for substances requiring a controlled substance licence, including Class 1 explosives, vertebrate toxic agents (9.3A, B, C), and certain fumigants. Class 6.1A and 6.1B substances such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information.
- Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.
- Controlled substance licences are required to possess certain class 1 (explosive) and class 6 (vertebrate toxic agents or fumigants) substances. See Part 7 of the Health and

Safety at Work Regulation 2017 for more information.

ERMA New Zealand HSNO approval HSR002670 - Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2017 code or group standard

Chemical name	New Zealand HSNO Chemical Classification
Proprietary -	6.3A,6.4A
camphene - 79-92-5	4.1.1B,8.3A,9.1A fish,9.1C crustacean
Glycerol, propoxylated, esters with acrylic acid - 52408-84-1	6.1E inhalation,6.3A,6.4A 6.3A,6.4A
Ethoxylated Trimethylolpropane Triacrylate - 28961-43-5	6.1E inhalation,6.3A,6.5B contact,8.3A,9.1B fish,9.1D algal,9.1D crustacean 6.3A,6.4A
Acrylic 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

International Inventories

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

Legend:

NZIoC - New Zealand Inventory of Chemicals
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 07-Feb-2019

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