

Safety Data Sheet

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LOCTITE 680 RC known as Loctite 680 RC 50ml AU

SDS No.: 450729 V001.1 Revision: 16.01.2019 printing date: 16.09.2022

IDENTIFICATION OF THE MATERIAL AND SUPPLIER SECTION 1

Product name:

LOCTITE 680 RC known as Loctite 680 RC 50ml AU

Intended use:

Anaerobic Sealant

Supplier: Henkel New Zealand Ltd 2 Allens Rd Auckland, 2013 New Zealand

> Phone: +64 (9) 272-6710

Emergency information:

24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Not Classified as Dangerous Goods according to NZS 5433: 2012 and the Land Transport Rule: Dangerous Goods 2005.

HSNO Classification:

6.3A Class 6 - Toxicity, Subclass 6.3 - Skin irritant, Hazard Classification A Class 8 - Corrosiveness, Subclass 8.3 - Eye corrosive, Hazard Classification A Class 6 - Toxicity, Subclass 6.5 - Sensitisation, Hazard Classification B Class 6 - Toxicity, Subclass 6.1 - Acutely toxic, Hazard Classification E Class 9 - Ecotoxicity, Subclass 9.1 - Aquatic, Hazard Classification C

GHS Classification:

Hazard Class	Hazard Category	<u>Target organ</u>
Skin irritation	Category 2	
Serious eye damage/eye irritation	Category 1	
Skin sensitizer	Category 1	
Target Organ Systemic Toxicant -	Category 3	respiratory tract irritation
Single exposure		
Acute hazards to the aquatic	Category 2	
environment		
Chronic hazards to the aquatic	Category 3	
environment		
Hazard pictogram:	\wedge	
•		

Signal word:

Danger

Hazard statement(s):	 H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H401 Toxic to aquatic life. H412 Harmful to aquatic life with long lasting effects.
Precautionary Statement(s): Prevention:	 P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves, eye protection, and face protection.
Response:	 P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P305+P351+P338+P315 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P362 Take off contaminated clothing.
Storage:	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description: Type of preparation: Mixture Anaerobic adhesive

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
3,3,5 Trimethylcyclohexyl methacrylate	7779-31-9	10- < 20 %
2-Hydroxyethyl methacrylate	868-77-9	10- < 30 %
Acrylic acid	79-10-7	3-< 5%
Methacrylic acid, monoester with propane-1,2-diol	27813-02-1	1-< 10 %
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	< 1%
Acetic acid, 2-phenylhydrazide	114-83-0	< 1%
Maleic acid	110-16-7	0.1-< 1 %
non hazardous ingredients~		60 %

SECTION 4 FIRST AID MEASURES

Ingestion:	Do not induce vomiting. Have victim rinse mouth thoroughly with water. Seek medical advice.
Skin:	In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. Seek medical advice.
Eyes:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical advice.
Inhalation:	Move to fresh air. Keep warm and in a quiet place. Seek medical advice.
First Aid facilities:	Eye wash and safety shower Normal washroom facilities
Medical attention and special treatment:	Treat symptomatically and supportively.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Carbon dioxide, foam, powder
Decomposition products in case of fire::	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide. Carbon dioxide. Oxides of nitrogen.
Special protective equipment for fire-fighters:	Wear full protective clothing. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).
Additional fire fighting advice:	In case of fire, keep containers cool with water spray. Collect contaminated fire fighting water separately. It must not enter drains.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear protective equipment. Ensure adequate ventilation. Avoid skin and eye contact.
Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:	Use only in well-ventilated areas. Avoid breathing vapors or mists of this product. Avoid skin and eye contact. Wear suitable protective clothing, safety glasses and gloves.		
Conditions for safe storage:	Store in a cool, well-ventilated place. Store protected from heat influence. cool and dry, in tightly closed containers		

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Ceiling	STEL (ppm)	STEL (mg/m3)
ACRYLIC ACID 79-10-7		2	5.9	-	-	-
ACRYLIC ACID		2	5.9	-	-	-
ingineering controls:	gineering controls: Ensure good ventilation/extraction.					
ye protection:	Wear	Wear chemical goggles and face shield.				
kin protection:		Protective clothing that covers arms and legs. Recommended gloves include butyl rubber and neoprene.				
Respiratory protection:	If inh	Use only in well-ventilated areas. If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.				

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

green
liquid
characteristic
1.1
93.3 °C (199.94 °F)
1.1 g/cm3
Not soluble
450 - 550 mPa.s

SECTION 10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions of temperature and pressure.

Conditions to avoid: Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials.

Incompatible materials:	Reducing agents. Strong acids and oxidizing agents. Oxygen scavengers. Strong alkalis.
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide. Carbon dioxide. Oxides of nitrogen.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:	
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Skin:	Causes skin irritation.
	Symptoms may include redness, edema, drying, defatting and cracking of the skin.
	May cause skin sensitization.
Eyes:	Causes serious eye damage.
	Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in corneal
	injury. Symptoms may include discomfort or pain, excess blinking and tear production, with
	marked redness and swelling of the conjunctiva.
Inhalation:	Causes respiratory tract irritation.
	Inhalation of vapor or aerosol may cause severe irritation to nose, throat and lungs.

Acute toxicity:

Hazardous components	Value	Value	Route of	Exposure	Species	Method
CAS-No.	type		application	time		
2-Hydroxyethyl	LD50	> 5,000 mg/kg	oral		rat	not specified
methacrylate	LD50	> 5,000 mg/kg			rabbit	not specified
868-77-9			dermal			
Acrylic acid	LD50	1,500 mg/kg	oral		rat	BASF Test
79-10-7	LC50	> 5.1 mg/l	inhalation	4 h	rat	OECD Guideline 403 (Acute
	Acute	11 mg/l	inhalation			Inhalation Toxicity)
	toxicity	1,100 mg/kg	dermal			Expert judgement
	estimate	> 2,000 mg/kg	dermal		rabbit	Expert judgement
	(ATE)					OECD Guideline 402 (Acute
	Acute					Dermal Toxicity)
	toxicity					
	estimate					
	(ATE)					
	LD50					
Methacrylic acid,	LD50	> 2,000 mg/kg	oral		rat	OECD Guideline 401 (Acute
monoester with propane-	LD50	> 5,000 mg/kg			rabbit	Oral Toxicity)
1,2-diol			dermal			not specified
27813-02-1						
2,2'-Ethylenedioxydiethyl	LD50	10,837 mg/kg	oral		rat	not specified
dimethacrylate	LD50	> 2,000 mg/kg			mouse	not specified
109-16-0			dermal			
Acetic acid, 2-	LD50	270 mg/kg	oral		rat	not specified
phenylhydrazide						
114-83-0						
Maleic acid	LD50	708 mg/kg	oral		rat	not specified
110-16-7	LD50	1,560 mg/kg			rabbit	not specified
			dermal			

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Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Acrylic acid 79-10-7	highly corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	not irritating	24 h	rabbit	Draize Test
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	not irritating	24 h	rabbit	Draize Test
Maleic acid 110-16-7	irritating	24 h	human	Patch Test

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	irritating		rabbit	Draize Test
Acrylic acid 79-10-7	corrosive	21 d	rabbit	BASF Test
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Maleic acid 110-16-7	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Acrylic acid 79-10-7	not sensitising	Skin painting test	guinea pig	not specified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Maleic acid 110-16-7	sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Maleic acid 110-16-7	sensitising	Mouse local lymphnod e assay (LLNA)	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	negative positive negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay bacterial reverse mutation assay (e.g Ames test)	with and without with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
2-Hydroxyethyl methacrylate 868-77-9	negative	oral: gavage		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Acrylic acid 79-10-7	negative negative	mammalian cell gene mutation assay DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
Acrylic acid 79-10-7	negative	oral: gavage		rat	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	negative negative	bacterial reverse mutation assay (e.g Ames test) mammalian cell gene mutation assay	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	negative	oral: gavage		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	negative negative negative	mammalian cell gene mutation assay bacterial reverse mutation assay (e.g Ames test) in vitro mammalian cell micronucleus test	with and without with and without with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Maleic acid 110-16-7	negative negative	bacterial reverse mutation assay (e.g Ames test) mammalian cell gene mutation assay	no data with and without		Ames Test OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	NOAEL=100 mg/kg	oral: gavage	once daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Methacrylic acid, monoester with propane- 1,2-diol 27813-02-1	NOAEL=300 mg/kg	oral: gavage		rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	NOAEL=1,000 mg/kg	oral: gavage	daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Maleic acid 110-16-7	NOAEL=>= 40 mg/kg	oral: feed	90 ddaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

SECTION 12. ECOLOGICAL INFORMATION

General ecological information:

Do not empty into drains / surface water / ground water.

Ecotoxicity:

Harmful to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity	Exposure time	Species	Method
C/AD-110.	type		Study	time		
2-Hydroxyethyl methacrylate 868-77-9	LC50	> 100 mg/l	Fish	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute
	FOS	926 /		70.1		Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	836 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	400 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3,000 mg/l	Bacteria	16 h	Pseudomonas fluorescens	other guideline:
Acrylic acid 79-10-7	LC50	27 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Acrylic acid 79-10-7	EC50	95 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater
Acrylic acid 79-10-7	EC10	0.03 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	Daphnids) EU Method C.3 (Algal Inhibition test)
Acrylic acid 79-10-7	EC50	0.13 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Acrylic acid 79-10-7	EC20	900 mg/l	Bacteria	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	LC50	493 mg/l	Fish	48 h	Leuciscus idus melanotus	Activated Sludge) DIN 38412-15
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	EC50	> 143 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute
Methacrylic acid, monoester with propane-1,2-diol	EC50	> 97.2 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	201 (Alga, Growth
27813-02-1 Methacrylic acid, monoester with propane-1,2-diol	NOEC	> 97.2 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	201 (Alga, Growth
27813-02-1 Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	EC10	1,140 mg/l	Bacteria	16 h		Inhibition Test) not specified
2,2'-Ethylenedioxydiethyl dimethacrylate	LC50	16.4 mg/l	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute
109-16-0 2,2'-Ethylenedioxydiethyl dimethacrylate	EC50	> 100 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	201 (Alga, Growth
109-16-0 2,2'-Ethylenedioxydiethyl dimethacrylate	NOEC	18.6 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	201 (Alga, Growth
109-16-0 Maleic acid 110-16-7	LC50	> 245 mg/l	Fish	48 h	Leuciscus idus	Inhibition Test) DIN 38412-15
Maleic acid 110-16-7	EC50	42.81 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp.

Persistence and degradability:

Hazardous components	Result	Route of	Degradability	Method
CAS-No. 2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	application aerobic	92 - 100 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Acrylic acid 79-10-7	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
Acrylic acid 79-10-7	readily biodegradable	aerobic	81 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	readily biodegradable	aerobic	94.2 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	readily biodegradable	aerobic	85 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Maleic acid 110-16-7	readily biodegradable	aerobic	97.08 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
2-Hydroxyethyl methacrylate 868-77-9	0.42				25 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)
Acrylic acid 79-10-7		3.16				QSAR (Quantitative Structure Activity Relationship)
Acrylic acid 79-10-7	0.46				25 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)
Methacrylic acid, monoester with propane-1,2-diol 27813-02-1	0.97				20 °C	not specified
2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0	2.3					OECD Guideline 117 (Partition Coefficient (n- octanol / water), HPLC Method)
Acetic acid, 2- phenylhydrazide 114-83-0	0.74					not specified
Maleic acid 110-16-7	-1.3				20 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal of product:

Dispose of in accordance with local and national regulations.

Disposal for uncleaned package:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated. Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

Dangerous Goods information:

Not Classified as Dangerous Goods according to NZS 5433: 2012 and the Land Transport Rule: Dangerous Goods 2005.

Marine transport IMDG: Not dangerous goods

Air transport IATA: Not dangerous goods

SECTION 15. REGULATORY INFORMATION

New Zealand regulatory information:

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

HSNO Approval Number:	HSR002670
Site and Storage:	Refer to the site and storage requirements for this Group Standard. Refer to the HSNO controls for approved hazardous substances.
NZIoC:	The hazardous components of this product are listed on the New Zealand Inventory of chemicals (NZIoC).

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms:	STEL - Short term exposure limit TWA - Time weighted average IMDG: International Maritime Dangerous Goods code IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
Reason for issue:	Reviewed SDS. Reissued with new date. involved chapters: 1 - 16

Date of previous issue:	26.07.2017
Disclaimer:	
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