Safety Data Sheet

LOCTITE 577 MEDIUM STRENGTH THREAD SEALANT
known as Loctite 577 PIPE SEALANT 250ML

SDS No. : 168431
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SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: LOCTITE 577 MEDIUM STRENGTH THREAD SEALANT known as Loctite 577 PIPE SEALANT 250ML

Intended use: Anaerobic Sealant

Supplier:

Henkel New Zealand Ltd
2 Allens Rd
East Tamaki
Auckland, 2013
New Zealand
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Emergency information: 24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).
Not classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

GHS Classification:

Hazard Class	Hazard Category
Skin sensitizer	Category 1

Hazard pictogram:

Signal word: Warning

Hazard statement(s): H317 May cause an allergic skin reaction.

Precautionary Statement(s):

Prevention:
P261 Avoid breathing mist/vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.

Response:
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

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: Mixture
Type of preparation: Anaerobic Sealant

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
dodecyl methacrylate	142-90-5	1- < 10 %
Ethene, homopolymer	9002-88-4	1- < 10 %
Silica, amorphous, fumed, cryst.-free	112945-52-5	1- < 10 %
Tetradecyl methacrylate	2549-53-3	1- < 10 %
Hexadecyl methacrylate	2495-27-4	1- < 10 %
Acetic acid, 2-phenylhydrazide	114-83-0	0.1- < 1 %
maleic acid	110-16-7	0.1- < 1 %
α, α-dimethylbenzyl hydroperoxide	80-15-9	0.1- < 1 %
methyl methacrylate	80-62-6	0.1- < 1 %
non hazardous ingredients~		30- <= 60 %

SECTION 4 FIRST AID MEASURES

Ingestion: Do not induce vomiting.
Have victim rinse mouth thoroughly with water.
Seek medical advice, symptomatic treatment.

Skin: Rinse with running water and soap.
Remove contaminated clothing and footwear.
If skin irritation persists, call a physician.

Eyes: Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

Inhalation: Move to fresh air. If symptoms persist, seek medical advice.

First Aid facilities: Eye wash
Normal washroom facilities

Medical attention and special treatment: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, foam, powder

Improper extinguishing media: Water spray jet

Decomposition products in case of fire:	Thermal decomposition may release toxic and/or hazardous gases. Carbon dioxide. carbon monoxide Irritating fumes.
Particular danger in case of fire:	In case of fire, keep containers cool with water spray.
Special protective equipment for fire-fighters:	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA). Wear full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid skin and eye contact. Ensure adequate ventilation. Wear adequate personal protective clothing and equipment. Keep unnecessary personnel away.
Environmental precautions:	Do not allow spill to enter sewage systems or open bodies of water.
Clean-up methods:	For small spills wipe up with paper towel and place in container for disposal. For large spills absorb onto inert absorbent material and place in sealed 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 original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.
Unsuitable materials with product:	plastic

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)
PARTICULATES NOT OTHERWISE CLASSIFIED, RESPIRABLE DUST 9002-88-4	Respirable dust.		3	-	-	-
PARTICULATES NOT OTHERWISE CLASSIFIED, INHALABLE DUST	Inhalable dust.		10	-	-	-
Particulates not otherwise classified, respirable dust Respirable dust (not otherwise classified) 112945-52-5	Respirable dust.		3	-	-	-
Particulates not otherwise classified, inhalable dust Inhalable dust (not otherwise classified)	Inhalable dust.		10	-	-	-
METHYL METHACRYLATE 80-62-6		50	208	-	-	-
METHYL METHACRYLATE		-	-	-	100	416

Biological Exposure Indices:
None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Eye protection: Safety goggles or safety glasses with side shields.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

Neoprene gloves.

Butyl rubber gloves.

Natural rubber gloves.

Respiratory protection: 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

Appearance:	dark yellow paste
Odor:	mild
pH:	3 - 6
Specific gravity:	1.15 - 1.2
Boiling point:	> 149 °C (> 300.2 °F)
Flash point: (Pensky Martens closed cup)	> 100 °C (> 212 °F)
Vapor pressure: (; 27 °C (80.6 °F); 27 °C (80.6 °F))	< 5 mm hg < 5 mm hg
Density:	1.15 - 1.20 g/cm3

Solubility in water:	Slightly soluble
Viscosity (dynamic): (Brookfield; Instrument: RVT; speed of rotation: 20 min-1; Spindle No: 6; Method: ;; LCT STM 10; Viscosity Brookfield)	16,000 - 33,000 mPa.s
VOC content: (2010/75/EC)	< 3 %

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid:	Extremes of temperature.
Incompatible materials:	Reacts with strong oxidants. Will attack some forms of plastic, rubber, and coatings.
Hazardous decomposition products:	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. carbon monoxide carbon dioxide
Hazardous polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

Ingestion: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Not expected to be harmful by ingestion.

Skin: Causes skin irritation.
Contact with liquid may produce severe skin irritation including redness and inflammation.
May cause allergic skin reaction.
May cause skin irritation.

Eyes: Causes serious eye irritation.
Symptoms may include severe irritation, pain, tearing, blurred vision.
Contact with eyes will cause irritation.

Inhalation: This product is irritating to the respiratory system.
Inhalation of product mist may cause irritation of the nose, throat, and respiratory tract.
May cause respiratory tract irritation.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
dodecyl methacrylate 142-90-5	LD50 LD50 Acute toxicity estimate (ATE)	> 5,000 mg/kg > 3,000 mg/kg 3,001 mg/kg	oral dermal dermal		rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) other guideline: Expert judgement
Ethene, homopolymer 9002-88-4	Acute toxicity estimate (ATE) Acute toxicity estimate (ATE) Acute toxicity estimate (ATE)	> 5,000 mg/kg > 5 mg/l > 5,000 mg/kg	oral inhalation dermal	4 h		Expert judgement Expert judgement Expert judgement
Silica, amorphous, fumed, cryst.-free 112945-52-5	LD50 LC0 LD50	> 5,000 mg/kg 0.139 mg/l > 2,000 mg/kg	oral inhalation dermal	4 h	rat rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) not specified OECD Guideline 402 (Acute Dermal Toxicity)
Acetic acid, 2-phenylhydrazide 114-83-0	LD50	270 mg/kg	oral		rat	not specified
maleic acid 110-16-7	LD50 LD50	708 mg/kg 1,560 mg/kg	oral dermal		rat rabbit	not specified not specified
α, α-dimethylbenzyl hydroperoxide 80-15-9	LD50 LC50 Acute toxicity estimate (ATE)	382 mg/kg 1.370 mg/l 1,100 mg/kg	oral inhalation dermal	4 h	rat rat	other guideline: not specified Expert judgement
methyl methacrylate 80-62-6	LD50 LC50 LD50	9,400 mg/kg 29.8 mg/l > 5,000 mg/kg	oral inhalation dermal	4 h	rat rat rabbit	not specified not specified not specified

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Silica, amorphous, fumed, cryst.-free 112945-52-5	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
maleic acid 110-16-7	irritating	24 h	human	Patch Test
α, α-dimethylbenzyl hydroperoxide 80-15-9	corrosive		rabbit	Draize Test

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethene, homopolymer 9002-88-4	not irritating	24 h	rabbit	FDA Guideline
Silica, amorphous, fumed, cryst.-free 112945-52-5	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
Ethene, homopolymer 9002-88-4	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
maleic acid 110-16-7	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
maleic acid 110-16-7	sensitising	Mouse local lymphnode assay (LLNA)	guinea pig	OECD Guideline 406 (Skin Sensitisation)
methyl methacrylate 80-62-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Ethene, homopolymer 9002-88-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		Ames Test
Silica, amorphous, fumed, cryst.-free 112945-52-5	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro			not specified not specified not specified
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)
α, α-dimethylbenzyl hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
α, α-dimethylbenzyl hydroperoxide 80-15-9	negative	dermal		mouse	not specified
methyl methacrylate 80-62-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
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)
α, α-dimethylbenzyl hydroperoxide 80-15-9		inhalation: aerosol	6 h/d5 d/w	rat	not specified
methyl methacrylate 80-62-6	LOAEL=2000 ppm	inhalation	14 weeks6 hrs/day, 5 days/wk	mouse	Dose Range Finding Study
methyl methacrylate 80-62-6	NOAEL=1000 ppm	inhalation	14 weeks6 hrs/day, 5 days/wk	mouse	Dose Range Finding Study

SECTION 12. ECOLOGICAL INFORMATION

General ecological information: Do not empty into drains / surface water / ground water., Cured Loctite products are typical polymers and do not pose any immediate environmental hazards.
Cured Loctite products are typical polymers and do not pose any immediate environmental hazards., Do not empty into drains, soil or bodies of water.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
dodecyl methacrylate 142-90-5	LC50	Toxicity > Water solubility	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
dodecyl methacrylate 142-90-5	EC50	Toxicity > Water solubility	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
dodecyl methacrylate 142-90-5	NOEC	Toxicity > Water solubility	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethene, homopolymer 9002-88-4	LC50	> 100 mg/l	Fish	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethene, homopolymer 9002-88-4	EC0	> 1,000 mg/l	Bacteria	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Silica, amorphous, fumed, cryst.-free 112945-52-5	LC50	> 10,000 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
maleic acid 110-16-7	LC50	> 245 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
maleic acid 110-16-7	EC50	42.81 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
maleic acid 110-16-7	EC50	74.35 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
maleic acid 110-16-7	EC10	11.8 mg/l	Algae	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
maleic acid 110-16-7	EC10	44.6 mg/l	Bacteria	18 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	LC50	3.9 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	EC50	18.84 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	EC50	3.1 mg/l	Algae	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	NOEC	1 mg/l	Algae	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	EC10	70 mg/l	Bacteria	30 min	not specified	not specified
methyl methacrylate 80-62-6	LC50	350 mg/l	Fish	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
methyl methacrylate 80-62-6	EC50	69 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)

methyl methacrylate 80-62-6	EC50	170 mg/l	Algae	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
methyl methacrylate 80-62-6	NOEC	100 mg/l	Algae	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
methyl methacrylate 80-62-6	EC20	> 150 - 200 mg/l	Bacteria	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
dodecyl methacrylate 142-90-5	readily biodegradable	aerobic	88.5 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Ethene, homopolymer 9002-88-4	not readily biodegradable.	aerobic	1 %	ISO 10708 (BODIS-Test)
Tetradecyl methacrylate 2549-53-3	readily biodegradable	aerobic	76.6 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Hexadecyl methacrylate 2495-27-4	readily biodegradable	aerobic	76.6 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
maleic acid 110-16-7	readily biodegradable	aerobic	97.08 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	not readily biodegradable.	aerobic	3 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
methyl methacrylate 80-62-6	readily biodegradable	aerobic	94 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
dodecyl methacrylate 142-90-5		37	56 h	Danio rerio		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
dodecyl methacrylate 142-90-5	6.68				20 °C	QSAR (Quantitative Structure Activity Relationship)
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)
α, α-dimethylbenzyl hydroperoxide 80-15-9		9.1		calculation		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
α, α-dimethylbenzyl hydroperoxide 80-15-9	1.6				25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
methyl methacrylate 80-62-6	1.38				20 °C	other guideline:

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal of product: Dispose of in accordance with local and national regulations.

Recommended cleanser: Solvent naphtha

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:

Land Transport:
Not classified as Dangerous Goods under 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 under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

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
HSNO - Hazardous Substances and New Organisms
GHS: Globally Harmonized System
CAS: Chemical Abstracts Service
LD 50: Lethal Dose 50%
LC 50: Lethal Concentration 50%
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

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Disclaimer:

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