Safety Data Sheet

LOCTITE 277 HIGH STRENGTH THREADLOCKER known as 277(TM) Threadlocker High Stre

SDS No. : 153485
V001.5
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: LOCTITE 277 HIGH STRENGTH THREADLOCKER known as 277(TM) Threadlocker High Stre

Intended use: Anaerobic Adhesive

Supplier:
Henkel Australia Pty Ltd
135-141 Canterbury Road
Kilsyth, Victoria, 3137
Australia

Phone: +61 (3) 9724 6444

E-mail address of person responsible for Safety Data Sheet: SDSinfo.Adhesive@henkel.com

Emergency Telephone for Chemical Accidents: 24 HOUR EMERGENCY CONTACT NUMBER: 1800 032 379

Section 2. Hazards identification

Classification of the substance or mixture
Hazardous according to the criteria of Safe Work Australia.

GHS Classification:

Hazard Class	Hazard Category	Target organ
Serious eye irritation	Category 2A	
Target Organ Systemic Toxicant - Single exposure	Category 3	respiratory tract irritation

Hazard pictogram:



Signal word: Warning

Hazard statement(s): H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary Statement(s):

Prevention: P261 Avoid breathing mist/vapours.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/face protection.

Response: 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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

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.

Dangerous Goods information:
Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Section 3. Composition / information on ingredients

General chemical description: Mixture
Methacrylates

Type of preparation: Methacrylate resin based threadlocker

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
α, α-dimethylbenzyl hydroperoxide	80-15-9	1- < 3 %
N,N-Diethyl-p-toluidine	613-48-9	< 10 %
N,N-dimethyl-o-toluidine	609-72-3	< 10 %
methacrylic acid	79-41-4	< 1 %
non hazardous ingredients~		60- <= 100 %

Section 4. First aid measures

Ingestion: Rinse mouth, do not induce vomiting, consult a doctor.

Skin: Rinse with running water and soap.
Seek medical advice.

Eyes: Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

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: If product is involved in fire extinguish with dry powder, foam or carbon dioxide.

Decomposition products in case of fire: Oxides of carbon.
Oxides of sulfur.
Oxides of nitrogen.
Irritating organic vapours.

Particular danger in case of fire: None

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Section 6. Accidental release measures

Personal precautions: Avoid skin and eye contact.
Ensure adequate ventilation.

Environmental precautions: Do not let product enter drains.

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 skin and eye contact.

Conditions for safe storage: Store in a cool, well-ventilated place.
Do not expose to direct heat.
Store in sealed original container.

Section 8. Exposure controls / personal protection

National exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Peak Limit. (ppm)	Peak Limit. (mg/m3)	STEL (ppm)	STEL (mg/m3)
METHACRYLIC ACID 79-41-4		20	70				

Engineering controls: Ensure good ventilation/suction at the workplace.

Eye protection: Wear protective glasses.

Skin protection: Wear suitable protective clothing.
The use of chemical resistant gloves such as Nitrile is recommended.
Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.
The use of chemical resistant gloves such as Neoprene or Natural Rubber is recommended

Respiratory protection: 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

Appearance:	red liquid
Odor:	mild, Acrylic
pH:	Not applicable, Product is non-polar/aprotic.
Melting point / freezing point:	Not applicable, Product is a liquid
Specific gravity:	1.1
Boiling point:	> 150 °C (> 302 °F)
Flash point:	> 100.00 °C (> 212 °F)
(Tagliabue closed cup) (Cleveland open cup)	No flash point up to 100 °C165 °C (329 °F)
Vapor pressure:	< 0.1300000 mbar
(; 20.0 °C (68 °F); 27 °C (80.6 °F); 25.0 °C (77 °F)no method / method unknown; 50 °C (122 °F))	< 5 mm hg < 13 Pa < 300 mbar
Vapor density:	> 1
Density:	1.0800 g/cm3

Section 10. Stability and reactivity

Conditions to avoid:	Keep away from heat, spark and flame.
Incompatible materials:	Strong acids and oxidizing agents. copper Rust. Iron. Oxygen scavengers. Strong alkalis. Reducing agents. Other polymerization initiators.
Hazardous decomposition products:	In case of fire toxic gases can be released. Irritating vapors. Oxides of carbon.
Hazardous polymerization:	Will not occur.

Section 11. Toxicological information

Health Effects:

Ingestion: May be harmful if swallowed.
Skin: May cause mild skin irritation.
Eyes: This product is irritating to the eyes.
Inhalation: May cause respiratory tract irritation.

Aggravated med. condition: Eye, skin, and respiratory disorders.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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
N,N-Diethyl-p-toluidine 613-48-9	Acute toxicity estimate (ATE) Acute toxicity estimate (ATE) Acute toxicity estimate (ATE)	100 mg/kg 3 mg/l 300 mg/kg	oral inhalation dermal			Expert judgement Expert judgement Expert judgement
N,N-dimethyl-o-toluidine 609-72-3	Acute toxicity estimate (ATE) Acute toxicity estimate (ATE) Acute toxicity estimate (ATE)	100 mg/kg 1.5 mg/l 300 mg/kg	oral inhalation dermal	4 h		Expert judgement Expert judgement Expert judgement
methacrylic acid 79-41-4	LD50 LC50 Acute toxicity estimate (ATE) LD50 Acute toxicity estimate (ATE)	1,320 mg/kg > 3.6 mg/l 3.61 mg/l 500 - 1,000 mg/kg 500 mg/kg	oral inhalation inhalation dermal dermal	4 h	rat rat rabbit	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement Dermal Toxicity Screening Expert judgement

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
α, α-dimethylbenzyl hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
N,N-Diethyl-p-toluidine 613-48-9	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
methacrylic acid 79-41-4	corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
methacrylic acid 79-41-4	corrosive		rabbit	Draize Test

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	equivalent or similar to 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
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
methacrylic acid 79-41-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
methacrylic acid 79-41-4	negative negative	inhalation oral: gavage		mouse mouse	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test) equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
α, α-dimethylbenzyl hydroperoxide 80-15-9		inhalation: aerosol	6 h/d5 d/w	rat	not specified
methacrylic acid 79-41-4		inhalation	90 d6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

Section 12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity:

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
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
N,N-Diethyl-p-toluidine 613-48-9	LC50	78.62 mg/l	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
N,N-Diethyl-p-toluidine 613-48-9	EC50	10.34 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
N,N-Diethyl-p-toluidine 613-48-9	EC50	7.42 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N-Diethyl-p-toluidine 613-48-9	EC50	23.69 mg/l	Algae	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
N,N-dimethyl-o-toluidine 609-72-3	LC 50	46 mg/l	Fish	96 h	Fathead minnow (Pimephales promelas)	
methacrylic acid 79-41-4	LC50	85 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
methacrylic acid 79-41-4	NOEC	10 mg/l	Fish	35 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
methacrylic acid 79-41-4	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
methacrylic acid 79-41-4	NOEC	8.2 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
methacrylic acid 79-41-4	EC50	45 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
methacrylic acid 79-41-4	EC10	100 mg/l	Bacteria	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method

α, α-dimethylbenzyl hydroperoxide 80-15-9	not readily biodegradable.	aerobic	3 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N,N-Diethyl-p-toluidine 613-48-9	not readily biodegradable.	not specified	1 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
N,N-dimethyl-o-toluidine 609-72-3	not readily biodegradable.		1 %	other guideline:
methacrylic acid 79-41-4	readily biodegradable	aerobic	86 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
methacrylic acid 79-41-4	inherently biodegradable	aerobic	100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	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)
N,N-Diethyl-p-toluidine 613-48-9	3.7					QSAR (Quantitative Structure Activity Relationship)
methacrylic acid 79-41-4	0.93				22 °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.

Section 14. Transport information

Road and Rail Transport:

Dangerous Goods information: Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Marine transport IMDG:
Not dangerous goods

Air transport IATA:
Not dangerous goods

Section 15. Regulatory information

SUSMP Poisons Schedule None

AIIC: All components are listed or are exempt from listing on the Australian Inventory of Industrial Chemicals or Introduced under AICIS.

Section 16. Other information

Abbreviations/acronyms:
GHS: Globally Harmonized System
CAS: Chemical Abstracts Service
LD 50: Lethal Dose 50%
OECD: Organization for Economic Cooperation and Development
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
ADGC - Australian Dangerous Goods Code
AIIC - Australian Inventory of Industrial Chemicals (AIIC)
AICIS - Australian Industrial Chemicals Introduction Scheme

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Disclaimer:

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