Safety Data Sheet

LOCTITE® 277™ THREADLOCKER HIGH STRENGTH

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

Product name: LOCTITE® 277™ THREADLOCKER HIGH STRENGTH

Other means of identification: LOCTITE 277 /SLNT HI STR 50ML
Product code: IDH88448
Recommended use of the chemical and restrictions on use

Intended use: Anaerobic Adhesive

Identification of manufacturer, importer or distributor
Importer: Henkel Malaysia Sdn Bhd 46th Floor, Menara TM, Jalan Pantai Baharu, 59200 Kuala Lumpur, Malaysia. Phone :+ 603 22461000 Fax : + 60322461188

E-mail address of person responsible for Safety Data Sheet: ap-ua-psra.sea@henkel.com

Emergency information: FOR EMERGENCIES ONLY (Spill, major leak, Fire, Exposure, or Accident). Call CHEMTREC: +1 703-741-5970

Section 2. Hazards identification

GHS Classification:

Hazard Class	Hazard Category	Target organ
Serious eye damage/eye irritation	Category 2A	
Specific target organ toxicity - single exposure	Category 3	respiratory tract irritation
Chronic hazards to the aquatic environment	Category 3	

GHS label elements:

Hazard pictogram:

Signal word: Warning

Hazard statement: H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Precaution:

Prevention: P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
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.

Disposal: P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Section 3. Composition / information on ingredients

Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Cumene hydroperoxide 80-15-9	1- 10 %	Organic peroxides E H242 Acute toxicity 4; Oral H302 Acute toxicity 3; Inhalation H331 Acute toxicity 4; Dermal H312 Skin corrosion/irritation 1B H314 Specific target organ toxicity - repeated exposure 2 H373 Chronic hazards to the aquatic environment 2 H411
N,N-Diethyl-p-toluidine 613-48-9	0.1- 1 %	Acute toxicity 3; Oral H301 Acute toxicity 3; Inhalation H331 Acute toxicity 3; Dermal H311 Specific target organ toxicity - repeated exposure 2 H373 Chronic hazards to the aquatic environment 3 H412
N,N-dimethyl-o-toluidine 609-72-3	0.1- 1 %	Acute toxicity 3; Oral H301 Acute toxicity 3; Inhalation H331 Acute toxicity 3; Dermal H311 Specific target organ toxicity - repeated exposure 2 H373 Chronic hazards to the aquatic environment 3 H412
Cumene 98-82-8	0.1- 1 %	Flammable liquids 3 H226 Specific target organ toxicity - single exposure 3 H335 Aspiration hazard 1 H304 Chronic hazards to the aquatic environment 2 H411

Section 4. First aid measures

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

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

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

Ingestion:	Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting. Seek medical advice.
Indication of immediate medical attention and special treatment needed:	See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media:	Carbon dioxide, foam, powder Fine water spray
Specific hazards arising from the chemical:	In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO2) can be released. In case of fire, keep containers cool with water spray.
Special protection equipment and precautions for firefighters:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Hazardous combustion products:	Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended. Oxides of carbon.
Additional fire fighting advice:	In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:	Avoid skin and eye contact. Ensure adequate ventilation. Wear protective equipment. See advice in section 8
Environmental precautions:	Do not empty into drains / surface water / ground 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. Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:	Use only with adequate ventilation. Avoid skin and eye contact. Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation. See advice in section 8
Storage:	Ensure good ventilation/extraction.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.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

CUMENE 98-82-8	**Value type**	Time Weighted Average (TWA):
	ppm	50
	Remarks	ACGIH
CUMENE 98-82-8	**Value type**	Time Weighted Average (TWA):
	ppm	50
	mg/m³	246
	Remarks	MY OEL
CUMENE 98-82-8	**Value type**	Skin designation:
	Remarks	MY OEL Can be absorbed through the skin.

Respiratory protection:
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Wear protective glasses.
Protective eye equipment should conform to EN166.

Body protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

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

Hygienic measures:
Good industrial hygiene practices should be observed. Do not eat, drink or smoke while working. Wash hands before work breaks and after finishing work.

Section 9. Physical and chemical properties

Appearance: red
liquid
Odor: characteristic
Odor threshold (CA): No data available.
pH: 3.00 - 6.00
Melting point / freezing point: No data available.
Specific gravity: 1.1
Boiling point: No data available.
Flash point: > 93.3 °C (> 199.94 °F)
(Tagliabue closed cup)
Evaporation rate: No data available.
Flammability (solid, gas): No data available.

Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure: (; 25.0 °C (77 °F))	< 0.1300000 mbar
Vapor density:	No data available.
Density:	1.0800 g/cm3
Solubility:	Slightly soluble
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
VOC content: (2010/75/EC)	< 3 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:	Peroxides.
Chemical stability:	Stable under recommended storage conditions.
Conditions to avoid:	Elevated temperatures. Heat, flames, sparks and other sources of ignition. Store away from incompatible materials. No decomposition if used according to specifications.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours. Phenolics.

Section 11. Toxicological information

Oral toxicity: Acute toxicity estimate (ATE) : > 2,000 mg/kg
Method: Calculation method

Inhalative toxicity: Acute toxicity estimate (ATE) : > 20 mg/l
Exposure time: 4 h
Test atmosphere: Vapor.
Method: Calculation method

Dermal toxicity: Acute toxicity estimate (ATE) : > 2,000 mg/kg
Method: Calculation method

Symptoms of Overexposure**:** EYE: Irritation, conjunctivitis.
RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

Acute oral toxicity:

Cumene hydroperoxide 80-15-9	Value type	LD50
	Value	382 mg/kg
	Species	rat
	Method	other guideline:
Cumene 98-82-8	Value type	LD50
	Value	2,700 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Cumene 98-82-8	Value type	LC50
	Value	39 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified

Acute dermal toxicity:

Cumene hydroperoxide 80-15-9	Value type	LD50
	Value	530 - 1,060 mg/kg
	Species	rat
	Method	other guideline:
Cumene hydroperoxide 80-15-9	Value type	Acute toxicity estimate (ATE)
	Value	1,100 mg/kg
	Species	
	Method	Expert judgement
Cumene 98-82-8	Value type	LD50
	Value	> 10,000 mg/kg
	Species	rabbit
	Method	not specified

Skin corrosion/irritation:

Cumene hydroperoxide 80-15-9	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Draize Test
Cumene 98-82-8	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Cumene 98-82-8	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Cumene 98-82-8	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Cumene hydroperoxide 80-15-9	Result	positive
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Cumene hydroperoxide 80-15-9	Result	negative
	Type of study / Route of administration	dermal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	not specified
Cumene 98-82-8	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Cumene 98-82-8	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Cumene 98-82-8	Result	negative
	Type of study / Route of administration	mammalian cell gene mutation assay
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Cumene 98-82-8	Result	negative
	Type of study / Route of administration	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
Cumene 98-82-8	Result	negative
	Type of study / Route of administration	inhalation: gas
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

Cumene hydroperoxide 80-15-9	Result	
	Route of application	inhalation: aerosol
	Exposure time / Frequency of treatment	6 h/d5 d/w
	Species	rat
	Method	not specified
Cumene 98-82-8	Result	NOAEL=> 535.8 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	28 ddaily
	Species	rat
	Method	not specified
Cumene 98-82-8	Result	NOAEL=125 ppm
	Route of application	inhalation: vapour
	Exposure time / Frequency of treatment	14 w6 h/d, 5 d/w
	Species	rat
	Method	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: Harmful to aquatic life with long lasting effects.

Toxicity:

Cumene hydroperoxide 80-15-9	Value type	LC50
	Value	3.9 mg/l

	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene hydroperoxide 80-15-9	Value type	EC50
	Value	18 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene hydroperoxide 80-15-9	Value type	ErC50
	Value	3.1 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	Value type	EC10
	Value	70 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	
	Method	not specified
N,N-dimethyl-o-toluidine 609-72-3	Value type	LC 50
	Value	46 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Fathead minnow (Pimephales promelas)
	Method	
Cumene 98-82-8	Value type	LC50
	Value	4.8 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene 98-82-8	Value type	EC50
	Value	4 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene 98-82-8	Value type	EC50
	Value	2.01 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	1.35 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene 98-82-8	Value type	EC10
	Value	211 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	24 h
	Species	
	Method	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)

Persistence and degradability:

Cumene hydroperoxide 80-15-9	Result	
	Route of application	no data
	Degradability	0 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Cumene 98-82-8	Result	
	Route of application	aerobic
	Degradability	86 %
	Method	ISO 10708 (BODIS-Test)

Bioaccumulative potential / Mobility in soil:

Cumene hydroperoxide 80-15-9	Bioconcentration factor (BCF)	9.1
	Exposure time	
	Species	calculation
	Temperature	
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Cumene hydroperoxide 80-15-9	LogPow	2.16
	Temperature	
	Method	not specified
Cumene 98-82-8	Bioconcentration factor (BCF)	35.5
	Exposure time	
	Species	Carassius auratus
	Temperature	
	Method	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Cumene 98-82-8	LogPow	3.55
	Temperature	23 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Section 13. Disposal considerations

Product

Method of disposal: Dispose of in accordance with local and national regulations.
Contribution of this product to waste is very insignificant in comparison to article in which it is used

Packaging

Disposal of uncleaned packages: 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 transport ADR:
Not dangerous goods

Railroad transport RID:
Not dangerous goods

Inland water transport ADN:
Not dangerous goods

Marine transport IMDG:
Not dangerous goods

Air transport IATA:
Not dangerous goods

`Section 15. Regulatory information

Regulatory Information: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/213]
Industry Code of Practice on Chemicals Classification and Hazard Communication

Global inventory status:

Regulatory list	Notification
TSCA	yes
NDSL	yes
ENCS (JP)	yes
KECI (KR)	yes
PICCS (PH)	yes
IECSC	yes
ISHL (JP)	yes

Section 16. Other information

Disclaimer: This Safety Data Sheet has been generated based on Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/213]only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.
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