Safety Data Sheet

545 Thread Sealant Pneumatic/Hydraulic Fittings

SDS No. : 153648
V003.3
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: 545 Thread Sealant Pneumatic/Hydraulic Fittings

Other means of identification: LOCTITE 545 HYDR SLNT 50ML
Product code: IDH135486
Recommended use of the chemical and restrictions on use

Intended use: Sealant

Identification of manufacturer, importer or distributor
Importer: Henkel Singapore Pte Ltd 401 Commonwealth Drive, #03-01/02, Haw Par Technocentre, Singapore. 149598
Phone : +65 62660100 Fax : +65 62661161

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
Skin corrosion/irritation	Category 2	
Serious eye damage/eye irritation	Category 2	
Skin sensitizer	Category 1	
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:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

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
2-Hydroxyethyl methacrylate 868-77-9	10- 30 %	Skin irritation 2 H315 Serious eye damage/eye irritation 2 H319 Skin Sensitization 1 H317
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 1 H314 Target Organ Systemic Toxicant - Repeated exposure 2 H373 Chronic hazards to the aquatic environment 2 H411
Acetic acid, 2-phenylhydrazide 114-83-0	0.1- 1 %	Acute toxicity 3; Oral H301 Skin irritation 2 H315 Serious eye damage/eye irritation 2 H319 Skin Sensitization 1 H317 Carcinogenicity 2 H351 Target Organ Systemic Toxicant - Single exposure 3; Inhalation H335
Maleic acid 110-16-7	0.1- 1 %	Acute toxicity 4; Oral H302 Acute toxicity 4; Dermal H312 Skin irritation 2 H315 Serious eye damage/eye irritation 2 H319 Skin Sensitization 1 H317 Target Organ Systemic Toxicant - Single exposure 3 H335
1,4-Naphthalenedione 130-15-4	< 0.1 %	Acute toxicity 3; Oral H301 Acute toxicity 1; Inhalation H330 Skin irritation 2; Dermal H315 Serious eye damage/eye irritation 2 H319 Skin Sensitization 1; Dermal H317 Target Organ Systemic Toxicant - Single exposure 3; Inhalation H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410

Section 4. First aid measures

Inhalation:	Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.
Skin contact:	Rinse with running water and soap. Obtain medical attention if irritation persists.
Eye contact:	Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.
Ingestion:	Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.
Indication of immediate medical attention and special treatment needed:	See section: Description of first aid measures

Section 5. Fire fighting measures

Suitable extinguishing media:	Foam, extinguishing powder, carbon dioxide.
Specific hazards arising from the chemical:	In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.
Special protection equipment and precautions for firefighters:	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

Section 6. Accidental release measures

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

Handling:	Use only in well-ventilated areas. Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation. Avoid skin and eye contact.
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.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Respiratory protection:	Ensure adequate ventilation. 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:	Ensure good ventilation/extraction.
Hygienic measures:	Good industrial hygiene practices should be observed. Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working.

Section 9. Physical and chemical properties

Appearance:	purple liquid
Odor:	characteristic
Odor threshold (CA):	No data available.
pH:	Not determined
Melting point / freezing point:	No data available.
Specific gravity:	1.02
Boiling point:	> 150 °C (> 302 °F)
Flash point: (Tagliabue closed cup)	> 93.3 °C (> 199.94 °F)
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: (; 20 °C (68 °F))	6.5 mbar
Vapor density:	No data available.
Density:	1.02 g/cm3
Solubility:	No data available.

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: Stable under normal conditions of storage and use.
Protect from direct sunlight.
Hazardous decomposition products: carbon oxides.

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**:** SKIN: Redness, inflammation.
SKIN: Rash, Urticaria.
EYE: Irritation, conjunctivitis.
RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

Acute oral toxicity:

2-Hydroxyethyl methacrylate 868-77-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Cumene hydroperoxide 80-15-9	Value type	LD50
	Value	550 mg/kg
	Species	rat
	Method	not specified
Acetic acid, 2-phenylhydrazide 114-83-0	Value type	LD50
	Value	270 mg/kg
	Species	rat
	Method	not specified
Maleic acid 110-16-7	Value type	LD50
	Value	708 mg/kg
	Species	rat
	Method	not specified
1,4-Naphthalenedione 130-15-4	Value type	LD50
	Value	190 mg/kg
	Species	rat
	Method	not specified

Acute dermal toxicity:

2-Hydroxyethyl methacrylate 868-77-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Cumene hydroperoxide 80-15-9	Value type	LD50
	Value	1,200 - 1,520 mg/kg
	Species	
	Method	not specified
Maleic acid 110-16-7	Value type	LD50
	Value	1,560 mg/kg
	Species	rabbit
	Method	not specified

Skin corrosion/irritation:

Cumene hydroperoxide 80-15-9	Result	corrosive
	Exposure time	
	Species	rabbit
	Method	Draize Test
Maleic acid 110-16-7	Result	irritating
	Exposure time	24 h
	Species	human
	Method	Patch Test

Serious eye damage/irritation:

2-Hydroxyethyl methacrylate 868-77-9	Result	irritating
	Exposure time	
	Species	rabbit
	Method	Draize Test
Maleic acid 110-16-7	Result	highly irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Maleic acid 110-16-7	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Maleic acid 110-16-7	Result	sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

2-Hydroxyethyl methacrylate 868-77-9	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)
2-Hydroxyethyl methacrylate 868-77-9	Result	positive
	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)
2-Hydroxyethyl methacrylate 868-77-9	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)
2-Hydroxyethyl methacrylate 868-77-9	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 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
2-Hydroxyethyl methacrylate 868-77-9	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
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
Maleic acid 110-16-7	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	no data
	Method	Ames Test
Maleic acid 110-16-7	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)

Repeated dose toxicity:

2-Hydroxyethyl methacrylate 868-77-9	Result	NOAEL=100 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	once daily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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
Maleic acid 110-16-7	Result	NOAEL=>= 40 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	90 ddaily
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Section 12. Ecological information

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

Toxicity:

2-Hydroxyethyl methacrylate 868-77-9	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oryzias latipes
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC50
	Value	380 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC50
	Value	836 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	NOEC
	Value	400 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	Value type	EC0
	Value	> 3,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species	Pseudomonas fluorescens
	Method	other guideline:
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	EC 50
	Value	7 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Water flea (Daphnia magna)
	Method	
	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
Maleic acid 110-16-7	Value type	LC50
	Value	> 245 mg/l
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus
	Method	DIN 38412-15
Maleic acid 110-16-7	Value type	EC50
	Value	42.81 mg/l

	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Maleic acid 110-16-7	Value type	EC50
	Value	74.35 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-Naphthalenedione 130-15-4	Value type	EC50
	Value	0.011 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Dunaliella bioculata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)

Persistence and degradability:

2-Hydroxyethyl methacrylate 868-77-9	Result	readily biodegradable
	Route of application	aerobic
	Degradability	92 - 100 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Cumene hydroperoxide 80-15-9	Result	
	Route of application	no data
	Degradability	0 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Maleic acid 110-16-7	Result	readily biodegradable
	Route of application	aerobic
	Degradability	97.08 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
1,4-Naphthalenedione 130-15-4	Result	
	Route of application	no data
	Degradability	0 - 60 %
	Method	OECD 301 A - F

Bioaccumulative potential / Mobility in soil:

2-Hydroxyethyl methacrylate 868-77-9	LogPow	0.42
	Temperature	25 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
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
Acetic acid, 2-phenylhydrazide 114-83-0	LogPow	0.74
	Temperature	
	Method	not specified
Maleic acid 110-16-7	LogPow	-1.3
	Temperature	20 °C
	Method	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
1,4-Naphthalenedione 130-15-4	LogPow	1.71
	Temperature	
	Method	not specified

Section 13. Disposal considerations

Product

Method of disposal: Dispose of in accordance with local and national regulations.
Collection and delivery to recycling enterprise or other registered elimination institution.

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

General information:
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

Section 15. Regulatory information

Regulatory Information: Workplace Safety And Health Act (Chapter 354A) Workplace Safety And Health (Approved Codes of Practice) Notification 2013 SS586 Specification for Hazard Communication for hazardous chemicals and dangerous good Part 1,2,3

Global inventory status:

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

Section 16. Other information

Disclaimer: 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.