Safety Data Sheet

LOCTITE SI 598 RTV SILICONE, BLACK known as Loctite® 598 Flange Sealant

SDS No. : 152851
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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name:
LOCTITE SI 598 RTV SILICONE, BLACK known as Loctite® 598 Flange Sealant

Other means of identification:
LOCTITE SI 598 PA49LBEN
Product code:
IDH135509
Recommended use of the chemical and restrictions on use

Intended use:
Silicone sealant

Identification of manufacturer, importer or distributor
Manufacturer: Henkel Corporation, Cleveland, 18731 Cranwood Parkway, Cleveland, OH 44128, United States.
Phone: 001 216 475 3600 Fax: 001 216

Importer: Henkel Thailand Ltd The Offices at Centralworld, 35th Floor, 999/9 Rama 1 Rd, Kwang Patumwan, Khet Patumwan, Bangkok 10330, Thailand. Phone : + 6622098000 Fax : +6622098008

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
Serious eye damage/eye irritation	Category 1
Skin sensitizer	Category 1
Chronic hazards to the aquatic environment	Category 3

GHS label elements:

Hazard pictogram:

Signal word:
Danger

Hazard statement:
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precaution:

Prevention:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
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.
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, 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
Dimethyl siloxane, hydroxyterminated 70131-67-8	39 %	
Limestone 1317-65-3	32 %	
Siloxanes and Silicones, di-Me 63148-62-9	16 %	
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	5.3 %	
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	4.1 %	Serious eye damage/eye irritation 1 H318 Skin sensitizer 1 H317 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 3 H402
Carbon black - Nano 1333-86-4	1 %	
aluminium powder (stabilised) 7429-90-5	0.8 %	Flammable solids 1 H228 Substances and mixtures, which on contact with water, emit flammable gases 2 H261
Octadecanoic acid 57-11-4	0.7 %	
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	0.5 %	
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	0.4 %	Flammable solids 1 H228 Acute toxicity 5; Oral H303 Serious eye damage/eye irritation 2A H319 Skin sensitizer 1 H317 Specific target organ toxicity - repeated exposure 2 H373 Acute hazards to the aquatic environment 3 H402
White mineral oil (petroleum), highly refined 8042-47-5	0.2 %	

Section 4. First aid measures

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

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:
Carbon dioxide, foam, powder

Specific hazards arising from the chemical:
Do not expose to direct heat.

Special protection equipment and precautions for firefighters:
Wear self-contained breathing apparatus.
In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
See advice in section 8

Environmental precautions:
Do not empty into drains / surface water / ground water.

Clean-up methods:
Scrape up as much material as possible.
Ensure adequate ventilation.
Store in a partly filled, closed container until disposal.
Dispose of contaminated material as waste according to Section 13.

Section 7. Handling and storage

Handling:
Use only in well-ventilated areas.
Vapours should be extracted to avoid inhalation.
Avoid skin and eye contact.
See advice in section 8

Storage:
Store in a cool, well-ventilated place.
Never allow product to get in contact with water during storage

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

CALCIUM CARBONATE, RESPIRABLE DUST 1317-65-3	**Value type**	Time Weighted Average (TWA):
	mg/m³	5
	Remarks	TH OEL
Limestone 1317-65-3	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
CALCIUM CARBONATE, INHALABLE DUST 1317-65-3	**Value type**	Time Weighted Average (TWA):
	mg/m³	15
	Remarks	TH OEL
CARBON BLACK, INHALABLE FRACTION 1333-86-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
ALUMINUM METAL AND INSOLUBLE COMPOUNDS, RESPIRABLE FRACTION 7429-90-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	1
	Remarks	ACGIH
ALUMINIUM METAL, AS AL, INHALABLE DUST 7429-90-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	15
	Remarks	TH OEL
ALUMINIUM METAL, AS AL, RESPIRABLE DUST 7429-90-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	5
	Remarks	TH OEL
STEARATES (EXCEPT STEARATES OF TOXIC METALS), INHALABLE FRACTION 57-11-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	10
	Remarks	ACGIH
STEARATES (EXCEPT STEARATES OF TOXIC METALS), RESPIRABLE FRACTION 57-11-4	**Value type**	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH
MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION 8042-47-5	**Value type**	Time Weighted Average (TWA):
	mg/m³	5
	Remarks	ACGIH

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:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
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 local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

Hygienic measures:
Take off contaminated clothing and wash before reuse.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

Section 9. Physical and chemical properties

Appearance:	black paste
Odor:	mild
Odor threshold (CA):	No data available.
pH:	Not applicable
Melting point / freezing point:	Not available.
Specific gravity:	1.3
Boiling point:	No data available.
Flash point: (Tagliabue closed cup)	> 93 °C (> 199.4 °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))	< 5 mm hg
Vapor density:	No data available.
Density:	1.05 g/cm3
Solubility:	Polymerises in presence of water.
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)	< 5.00 %

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
Polymerises in presence of water.
Reaction with acids: production of heat and carbon dioxide.
Chemical stability:
Stable under recommended storage conditions.
Conditions to avoid:
Exposure to air or moisture over prolonged periods.
Hazardous decomposition products:
Methyl ethyl ketoxime formed during cure.
Methanol is liberated slowly upon exposure to moisture.

Section 11. Toxicological information

Symptoms of Overexposure**:** SKIN: Rash, Urticaria.
After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

Acute oral toxicity:

Dimethyl siloxane, hydroxyterminated 70131-67-8	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified
Limestone 1317-65-3	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Siloxanes and Silicones, di-Me 63148-62-9	Value type	LD50
	Value	> 17,000 mg/kg
	Species	rat
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
Carbon black - Nano 1333-86-4	Value type	LD50
	Value	> 8,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
aluminium powder (stabilised) 7429-90-5	Value type	LD50
	Value	> 15,900 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Octadecanoic acid 57-11-4	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Value type	LD50
	Value	2,463 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
White mineral oil (petroleum), highly refined 8042-47-5	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

aluminium powder (stabilised) 7429-90-5	Value type	LC50
	Value	> 5 mg/l
	Exposure time	4 h
	Species	rat
	Method	not specified
White mineral oil (petroleum), highly refined 8042-47-5	Value type	LC50
	Value	> 5 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Dimethyl siloxane, hydroxyterminated 70131-67-8	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified
Limestone 1317-65-3	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	not specified
Siloxanes and Silicones, di-Me 63148-62-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	not specified
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Value type	LD50
	Value	> 2,009 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Octadecanoic acid 57-11-4	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 434 (Acute Dermal Toxicity)
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rat
	Method	OECD Guideline 402 (Acute Dermal Toxicity)
White mineral oil (petroleum), highly refined 8042-47-5	Value type	LD50
	Value	> 2,000 mg/kg
	Species	rabbit
	Method	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Dimethyl siloxane, hydroxyterminated 70131-67-8	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	not specified
Limestone 1317-65-3	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Siloxanes and Silicones, di-Me 63148-62-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Silane, dichlorodimethyl-, reaction	Result	not irritating

products with silica 68611-44-9	Exposure time	4 h
	Species	rabbit
	Method	not specified
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
aluminium powder (stabilised) 7429-90-5	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Octadecanoic acid 57-11-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	Patch Test
White mineral oil (petroleum), highly refined 8042-47-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Dimethyl siloxane, hydroxyterminated 70131-67-8	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Limestone 1317-65-3	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Siloxanes and Silicones, di-Me 63148-62-9	Result	slightly irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	not specified
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
aluminium powder (stabilised) 7429-90-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	FDA Guideline
Octadecanoic acid 57-11-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	Draize Test
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Result	irritating
	Exposure time	1 h
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
White mineral oil (petroleum), highly refined 8042-47-5	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Limestone 1317-65-3	Result	not sensitising
	Test type	Mouse local lymphnode assay (LLNA)
	Species	mouse
	Method	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Siloxanes and Silicones, di-Me 63148-62-9	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not sensitising
	Test type	Patch-Test
	Species	human
	Method	human repeat insult patch test
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Result	Sensitizing
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
Carbon black - Nano 1333-86-4	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
aluminium powder (stabilised) 7429-90-5	Result	not sensitising
	Test type	Draize Test
	Species	guinea pig
	Method	Draize Test
Octadecanoic acid 57-11-4	Result	not sensitising
	Test type	Guinea pig maximisation test
	Species	
	Method	Magnusson and Kligman Method
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Result	sensitising
	Test type	Guinea pig maximisation test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)
White mineral oil (petroleum), highly refined 8042-47-5	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Limestone 1317-65-3	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)
Limestone 1317-65-3	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)
Limestone 1317-65-3	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)
Siloxanes and Silicones, di-Me 63148-62-9	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	Ames Test
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	negative
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	with and without
	Method	Chromosome Aberration Test
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	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)
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Carbon black - Nano 1333-86-4	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)
Carbon black - Nano 1333-86-4	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)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	sister chromatid exchange assay in mammalian cells
	Metabolic activation / Exposure time	with and without
	Method	OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Carbon black - Nano 1333-86-4	Result	negative
	Type of study / Route of administration	oral: feed
	Metabolic activation / Exposure time	
	Species	Drosophila melanogaster
	Method	OECD Guideline 477 (Genetic Toxicology: Sex-linked Recessive Lethal Test in Drosophila melanogaster)
aluminium powder (stabilised) 7429-90-5	Result	positive
	Type of study / Route of administration	in vitro mammalian cell micronucleus test
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
aluminium powder (stabilised) 7429-90-5	Result	positive
	Type of study / Route of administration	in vitro mammalian chromosome aberration test
	Metabolic activation / Exposure time	without
	Method	OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
aluminium powder (stabilised) 7429-90-5	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)
aluminium powder (stabilised) 7429-90-5	Result	negative
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
aluminium powder (stabilised) 7429-90-5	Result	ambiguous
	Type of study / Route of administration	oral: gavage
	Metabolic activation / Exposure time	
	Species	rat
	Method	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Octadecanoic acid 57-11-4	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with and without
	Method	not specified
Octadecanoic acid 57-11-4	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)
Octadecanoic acid 57-11-4	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)
White mineral oil (petroleum), highly refined 8042-47-5	Result	negative
	Type of study / Route of administration	bacterial reverse mutation assay (e.g Ames test)
	Metabolic activation / Exposure time	with
	Method	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
White mineral oil (petroleum), highly refined 8042-47-5	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)
White mineral oil (petroleum), highly refined 8042-47-5	Result	negative
	Type of study / Route of administration	intraperitoneal
	Metabolic activation / Exposure time	
	Species	mouse
	Method	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Repeated dose toxicity:

Limestone 1317-65-3	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	48 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Siloxanes and Silicones, di-Me 63148-62-9	Result	NOAEL=> 100000 ppm
	Route of application	oral: feed
	Exposure time / Frequency of treatment	28 d
	Species	rat
	Method	not specified
Siloxanes and Silicones, di-Me 63148-62-9	Result	NOAEL=> 1,000 mg/kg
	Route of application	dermal
	Exposure time / Frequency of treatment	29 d
	Species	rabbit
	Method	not specified
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	NOAEL=500 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	5-8 wdaily
	Species	rat
	Method	not specified
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Result	NOAEL=10 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Octadecanoic acid 57-11-4	Result	NOAEL=1,000 mg/kg
	Route of application	oral: gavage
	Exposure time / Frequency of treatment	42 ddaily
	Species	rat
	Method	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Result	NOAEL=25 mg/kg
	Route of application	oral: drinking water
	Exposure time / Frequency of treatment	90 ddaily: ad libitum
	Species	rat
	Method	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
White mineral oil (petroleum), highly refined 8042-47-5	Result	NOAEL=>= 1,600 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

General ecological information: Cured Loctite products are typical polymers and do not pose any immediate environmental hazards., Precautions required with respect to Environmental Hazards of articles in which this product is used should be considered., Do not empty into drains / surface water / ground water.

Ecotoxicity: Harmful to aquatic life with long lasting effects.

Toxicity:

Dimethyl siloxane, hydroxyterminated 70131-67-8	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	not specified
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)

Dimethyl siloxane, hydroxyterminated 70131-67-8	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Dimethyl siloxane, hydroxyterminated 70131-67-8	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Limestone 1317-65-3	Value type	LC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	not specified
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Limestone 1317-65-3	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Limestone 1317-65-3	Value type	EC50
	Value	> 200 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	not specified
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Limestone 1317-65-3	Value type	EC50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge of a predominantly domestic sewage
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Siloxanes and Silicones, di-Me 63148-62-9	Value type	LC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Lepomis macrochirus
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Siloxanes and Silicones, di-Me 63148-62-9	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	LC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	EC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Value type	EC50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	
	Species	
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Value type	LC50
	Value	> 560 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h

	Species	Brachydanio rerio (new name: Danio rerio)
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	NOEC
	Value	50 mg/l
	Acute Toxicity Study	Fish
	Exposure time	14 d
	Species	Oryzias latipes
	Method	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Value type	EC50
	Value	201 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Value type	EC50
	Value	94 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	30 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)
Carbon black - Nano 1333-86-4	Value type	LC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Danio rerio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Carbon black - Nano 1333-86-4	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Carbon black - Nano 1333-86-4	Value type	EC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EC10
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Carbon black - Nano 1333-86-4	Value type	EC0
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	activated sludge, domestic
	Method	other guideline:
Octadecanoic acid 57-11-4	Value type	LC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Fish
	Exposure time	48 h
	Species	Leuciscus idus
	Method	DIN 38412-15
Octadecanoic acid 57-11-4	Value type	IC50
	Value	Toxicity > Water solubility
	Acute Toxicity Study	Algae
	Exposure time	96 h
	Species	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)
	Method	other guideline:
Octadecanoic acid 57-11-4	Value type	EC10
	Value	Toxicity > Water solubility

	Acute Toxicity Study	Bacteria
	Exposure time	16 h
	Species	Pseudomonas putida
	Method	ISO 10712: Determination of the inhibitory effect of water constituents on bacteria (Pseudomonas cell inhibition test)
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	Value type	LC50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Cyprinus carpio
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	Value type	EC50
	Value	> 100 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
[3-(Trimethoxysilyl)propyl]urea 23843-64-3	Value type	EC50
	Value	> 220 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Value type	LC50
	Value	843 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Pimephales promelas
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
	Value type	NOEC
	Value	50 mg/l
	Acute Toxicity Study	Fish
	Exposure time	14 d
	Species	Oryzias latipes
	Method	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Value type	EC50
	Value	201 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Value type	EC50
	Value	16 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	2.6 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)
White mineral oil (petroleum), highly refined 8042-47-5	Value type	LL50
	Value	> 100 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Oncorhynchus mykiss
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
White mineral oil (petroleum), highly refined 8042-47-5	Value type	EL50
	Value	> 100 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	48 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
White mineral oil (petroleum), highly refined 8042-47-5	Value type	NOELR
	Value	100 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Pseudokirchneriella subcapitata
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)

White mineral oil (petroleum), highly refined 8042-47-5	Value type	IC50
	Value	> 100 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	93 d
	Species	other:
	Method	other guideline:

Persistence and degradability:

Siloxanes and Silicones, di-Me 63148-62-9	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	0 %
	Method	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9	Result	not readily biodegradable.
	Route of application	not specified
	Degradability	> 0 - < 60 %
	Method	OECD 301 A - F
Butan-2-one O,O',O''-(vinylsilylidyne)trioxime 2224-33-1	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	26 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Octadecanoic acid 57-11-4	Result	readily biodegradable
	Route of application	aerobic
	Degradability	95 %
	Method	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Butan-2-one O,O',O'',O'''-silanetetrayltetraoxime 34206-40-1	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	28 %
	Method	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
White mineral oil (petroleum), highly refined 8042-47-5	Result	not readily biodegradable.
	Route of application	aerobic
	Degradability	31.3 %
	Method	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

Bioaccumulative potential / Mobility in soil:

Octadecanoic acid 57-11-4	Bioconcentration factor (BCF)	> 234 - 288
	Exposure time	
	Species	Danio rerio
	Temperature	
	Method	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
Octadecanoic acid 57-11-4	LogPow	8.23
	Temperature	
	Method	EU Method A.8 (Partition Coefficient)
White mineral oil (petroleum), highly refined 8042-47-5	LogPow	> 4
	Temperature	
	Method	EU Method A.8 (Partition Coefficient)

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.
Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

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:
Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555

Global inventory status:

Regulatory list	Notification
TSCA	yes
DSL	yes
KECI (KR)	yes
IECSC	yes
AICS	yes
TCSI	yes
PICCS (PH)	yes
CH INV	yes
EINECS	yes

Section 16. Other information

Disclaimer:
This Safety Data Sheet has been generated based on Ministry of Industry Notice. The system to classify and communicate the hazard of hazardous material, BE. 2555 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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