



Safety Data Sheet

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LOCTITE SI 593 FLANGE SEALANT known as 593 FLANGE
SEALANT 300ML

SDS No. : 193763
V001.6

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Section 1. Identification of the substance/preparation and of the company/undertaking

Product name:

LOCTITE SI 593 FLANGE SEALANT known as 593 FLANGE SEALANT 300ML

Other means of identification:

LOCTITE SI 593 300ML

Product code:

IDH231563

Recommended use of the chemical and restrictions on use

Intended use:

Silicone

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:

Substance or mixture is not classified as hazardous according to Globally Harmonized System(GHS).

GHS label elements:

Substance or mixture is not classified as hazardous according to Globally Harmonized System(GHS).

Section 3. Composition / information on ingredients

Substance or Mixture:
Mixture

Declaration of hazardous chemical:

Hazard component CAS-No.	Content	GHS Classification
Silicon dioxide 7631-86-9	1- 10 %	
Carbon black - Nano 1333-86-4	1- 10 %	
Cyclosiloxanes, di-Me 69430-24-6	0.1- 1 %	Flammable liquids 3 H226 Acute toxicity 3; Inhalation H331 Acute toxicity 5; Dermal H313 Aspiration hazard 1 H304 Chronic hazards to the aquatic environment 4 H413

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 if necessary.

Ingestion:

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

Special protection equipment and precautions for firefighters:
Wear self-contained breathing apparatus.

Hazardous combustion products:
carbon oxides.
Silica fume
Formaldehyde

Additional fire fighting advice:
In case of fire, keep containers cool with water spray.

Section 6. Accidental release measures

Personal precautions:
Avoid contact with skin and eyes.
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:
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 at room temperature.

Section 8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Silicon dioxide 7631-86-9	Value type	Time Weighted Average (TWA):
	mg/m³	6
CARBON BLACK, INHALABLE FRACTION 1333-86-4	Value type	Time Weighted Average (TWA):
	mg/m³	3
	Remarks	ACGIH

Respiratory protection:

Ensure adequate ventilation.

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 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:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

Take off contaminated clothing and wash before reuse.

Section 9. Physical and chemical properties

Appearance:	Black Paste
Odor:	Acetic acid
Odor threshold (CA):	No data available.
pH:	Not determined
Melting point / freezing point:	Not available.
Specific gravity:	1.01
Boiling point:	No data available.
Flash point:	> 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:	< 10 mm hg (; 20 °C (68 °F))

Vapor density: No data available.
Density: 1.01 g/cm³
Solubility: Not soluble. Polymerizes 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.
 (; Method: no method)
VOC content: < 3 % 30 g/l

Section 10. Stability and reactivity

Reactivity/Incompatible materials:
 Strong oxidizing agents.
 Polymerises in presence of water.
Chemical stability:
 Stable under recommended storage conditions.
Conditions to avoid:
 Stable under normal conditions of storage and use.
Hazardous decomposition products:
 Acetic acid is liberated slowly upon contact with moisture.
 At higher temperatures (>150C) may release formaldehyde (traces).

Section 11. Toxicological information

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

Symptoms of Overexposure: SKIN: Rash, Urticaria.
 SKIN: Redness, inflammation.
 Causes burns.

Acute oral toxicity:

Silicon dioxide 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)
Carbon black - Nano 1333-86-4	Value type	LD50
	Value	> 8,000 mg/kg
	Species	rat
	Method	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Silicon dioxide 7631-86-9	Value type	LC50
	Value	> 2.08 mg/l
	Exposure time	4 h
	Species	rat
	Method	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Silicon dioxide 7631-86-9	Value type	LD50
	Value	> 5,000 mg/kg
	Species	rabbit
	Method	not specified
Cyclosiloxanes, di-Me 69430-24-6	Value type	LD50
	Value	> 2,400 mg/kg
	Species	rat
	Method	not specified

Skin corrosion/irritation:

Silicon dioxide 7631-86-9	Result	not irritating
	Exposure time	4 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	24 h
	Species	rabbit
	Method	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Silicon dioxide 7631-86-9	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Carbon black - Nano 1333-86-4	Result	not irritating
	Exposure time	
	Species	rabbit
	Method	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Carbon black - Nano 1333-86-4	Result	not sensitising
	Test type	Buehler test
	Species	guinea pig
	Method	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Silicon dioxide 7631-86-9	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)
Silicon dioxide 7631-86-9	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)
Silicon dioxide 7631-86-9	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)
Silicon dioxide 7631-86-9	Result	negative
	Type of study / Route of administration	inhalation
	Metabolic activation / Exposure time	
	Species	rat
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
Carbon black - Nano 1333-86-4	Method	OECD Guideline 477 (Genetic Toxicology: Sex-linked Recessive Lethal Test in Drosophila melanogaster)

Repeated dose toxicity:

Silicon dioxide 7631-86-9	Result	NOAEL=> 4,000 - 4,500 mg/kg
	Route of application	oral: feed
	Exposure time / Frequency of treatment	13 weeksdaily
	Species	rat
	Method	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Silicon dioxide 7631-86-9	Result	NOAEL=1.3 mg/m3
	Route of application	inhalation
	Exposure time / Frequency of treatment	13 w6 h/d, 5 d/w
	Species	rat
	Method	equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

Section 12. Ecological information

General ecological information:

Cured Loctite products are typical polymers and do not pose any immediate environmental hazards., Do not empty into drains / surface water / ground water.

Toxicity:

Silicon dioxide 7631-86-9	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)
Silicon dioxide 7631-86-9	Value type	EL50
	Value	> 1,000 mg/l
	Acute Toxicity Study	Daphnia
	Exposure time	24 h
	Species	Daphnia magna
	Method	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Silicon dioxide 7631-86-9	Value type	NOELR
	Value	10,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
	Value type	EL50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Algae
	Exposure time	72 h
	Species	Desmodesmus subspicatus
	Method	OECD Guideline 201 (Alga, Growth Inhibition Test)
Silicon dioxide 7631-86-9	Value type	EC0
	Value	10,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	30 min
	Species	Pseudomonas putida
	Method	DIN 38412, part 27 (Bacterial oxygen consumption 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:
Cyclosiloxanes, di-Me 69430-24-6	Value type	LC50
	Value	> 3,000 mg/l
	Acute Toxicity Study	Fish
	Exposure time	96 h
	Species	Leuciscus idus
	Method	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cyclosiloxanes, di-Me 69430-24-6	Value type	EC 50
	Value	> 10,000 mg/l
	Acute Toxicity Study	Bacteria
	Exposure time	3 h
	Species	
	Method	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

Bioaccumulative potential / Mobility in soil:

Silicon dioxide 7631-86-9	LogPow	0.53
	Temperature	
	Method	QSAR (Quantitative Structure Activity Relationship)

Section 13. Disposal considerations

Product

Method of disposal:

Dispose of in accordance with local and national regulations.

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
ENCS (JP)	yes
IECSC	yes
AICS	yes
NZIOC	yes
PICCS (PH)	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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