SECTION 1: Identification of the substance/mixture and of the company

Product Identifier

Product Name: ADDSiL™ 13218

Relevant identified uses of the substance or mixture and uses advised against

Relevant applications identified: For industrial use

Details of the supplier of the safety data sheet

Company: Nanjing SiSiB Silicones Co., Ltd.
Guanghua Sci & Tech Industrial Zone,
No. 104, Guanghua Road, Nanjing 210007, P.R.China
Email: SDS@SiSiB.com

Emergency Telephone Number: +86-25-8468-0091

SECTION 2: Hazardous identification

Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

Classification (REGULATION (EC) No 1272/2008)

Not classified.

Label Elements: Not applicable.

Labelling according to Regulation (EC) No 1272/2008

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Other hazards: No data available.

SECTION 3: Composition/information on ingredients

Chemical nature: Polyether modified polysiloxane copolymer

Substance / Mixture: This product is a mixture.

General information: No data available.

Chemical name	CAS No.	EC-No.	Concentration	M-Factor	Notes
Octamethylcyclotetrasiloxane	556-67-2	209-136-7	>= 0.1 - <= 1.0%	No data available.	PBT, vPvB
Decamethylpentasiloxane	541-02-6	208-764-9	>= 0.1 - <= 1.0%	No data available.	vPvB
Dodecamethylcyclohexasiloxane	540-97-6	208-762-8	>= 0.1 - <= 1.0%	No data available.	vPvB

All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. This substance has workplace exposure limit(s). PBT: persistent, bioaccumulative and toxic

substance. vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Classification	Notes
Octamethylcyclotetrasiloxane	Flam. Liq.: 3: H226; Repr.: 2: H361f; Aquatic Chronic: 2: H411;	No data available.
Decamethylpentasiloxane	No data available.	
Dodecamethylcyclohexasiloxane	No data available.	

CLP: Regulation No. 1272/2008.

SECTION 4: First aid measures

General advice

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Description of first aid measures

If inhaled

Move into fresh air and keep at rest. Get medical attention if symptoms occur.

In case of eye contact

Get medical attention if symptoms occur. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

In case of skin contact

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

If swallowed

Do not induce vomiting. Get medical attention immediately. Do not give victim anything to drink if he is unconscious. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms and effects, both acute and delayed

Unknown.

Indication of any immediate medical attention and special treatment needed

Hazards

No information about adverse effects due to exposure.

Treatment

If swallowed, do not induce vomiting. Give a glass of water.

SECTION 5: Firefighting measures

General Fire Hazards

Do not use water jet as an extinguisher, as this will spread the fire. Use water spray to keep fire-exposed containers cool.

Extinguishing media

Suitable extinguishing media

Alcohol resistant foam. Carbon dioxide Dry chemical.

Unsuitable extinguishing media

Avoid water in straight hose stream; will scatter and spread fire.

Special hazards arising from the substance or mixture

In case of fire, carbon monoxide and carbon dioxide may be formed.

Advice for firefighters

Special fire fighting procedures

Take precautionary measures against static discharges. To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes, skin and clothing. Avoid contact with liquid and vapors. Use personal protective equipment. Use only in well-ventilated areas.

Environmental precautions

Do not allow runoff to sewer, waterway or ground.

Methods and materials for containment and clean up

Absorb spillage with suitable absorbent material. Shovel up and place in a container for salvage or disposal.

Reference to other sections

Remove sources of ignition. In case of spills, beware of slippery floors and surfaces. See Section 8 of the SDS for Personal Protective Equipment. Collect and dispose of spillage as indicated in section 13 of the SDS.

SECTION 7: Handling and storage

Precautions for safe handling

Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Wash hands after handling. Provide adequate ventilation. Avoid inhalation of dust and vapors.

Storage conditions

Keep container tightly closed. Keep away from sources of ignition - No smoking. Do not allow material to freeze.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep away from sources of ignition - No smoking.

Storage Stability

Material is stable under normal conditions.

Specific end use(s) No data available.

SECTION 8: Exposure Controls/Personal Protection

Control parameters

Occupational exposure limits None of the components have assigned exposure limits.

Chemical name	Type	Exposure limit values	Source
Propane-1, 2-diol-Particulate.	TWA	10 mg/m^3	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
propane-1,2-diol - Total vapour and particulates.	TWA	150 ppm 474 mg/m^3	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)

Biological Limit Values None.

Exposure controls Eyewash bottle with clean water.

Appropriate Engineering Controls

No special requirements under ordinary conditions of use and with adequate ventilation. Use only in well-ventilated areas.

Individual protection measures

General information

Use only in well-ventilated areas. Do not eat, drink or smoke when using the product. Wash hands after handling. Practice good housekeeping.

Eye/face protection

Safety glasses with side-shields conforming to EN166.

Skin protection Hand Protection

There is no risk to health due to contact with the chemical. Use hand protection to prevent mechanically injuries.

Other

Safety shoes Long sleeves.

Respiratory Protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures

Observe good industrial hygiene practices. Wash hands after handling. When using do not eat, drink or smoke. Provide adequate ventilation.

Environmental exposure controls

No release to wastewater from process. The wastewater emissions limited to release generated from final equipment cleaning step using water.

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance

Physical state:	Liquid
Color:	Colorless/Yellow
Odor:	Polyether
Odor threshold:	No data available
pH:	4.0-7.0 (1% aqueous solution)
Freezing point:	No data available
Boiling point:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability:	No data available
Explosive limits:	No data available
Vapor pressure:	No data available
Vapor density (air=1):	Heavier than air
Relative density:	No data available
Density:	1.01-1.04 g/cm^3 (25°C)
Solubility in water:	Soluble
Solubility (other):	No data available
Partition coefficient (n-octanol/water) Log Pow:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	Material is stable under normal conditions.
SADT	No data available
Viscosity:	900-1300 cSt (25°C)
Explosive properties:	No data available
Oxidizing properties:	No classified as oxidizing

SECTION 10: Stability And Reactivity

Reactivity	No data available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Under normal conditions, hazardous reactions will not occur.
Conditions to avoid	Unknown.
Incompatible materials	Inorganic halides. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides of silicon. Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

SECTION 11:Toxicological Information

Information on likely routes of exposure

Inhalation	No data available.
Ingestion	No data available.
Skin Contact	No data available.
Eye contact	No data available.
Acute toxicity	
Oral	
Product	LD 50 (Rat): > 2.000 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)
Specified substance(s)	
Octamethylcyclotetrasiloxane	LD 50 (Rat): 4.800 mg/kg
Decamethylpentasiloxane	LD 50 (Rat): > 60.000 mg/kg
Dodecamethylcyclohexasiloxane	LD 50 (Rat): 2.000 mg/kg
Dermal	
Product	LD 50 (Rat): > 2.000 mg/kg OECD-Guideline 402 (Acute Dermal Toxicity) Not classified
Specified substance(s)	
Octamethylcyclotetrasiloxane	LD 50 (Rat): > 2.400 mg/kg
Decamethylpentasiloxane	LD 50 (Rabbit): > 15.000 mg/kg
Dodecamethylcyclohexasiloxane	LD 50 (Rat): 2.000 mg/kg
Inhalation	
Product	Not classified for acute toxicity based on available data.
Specified substance(s)	
Octamethylcyclotetrasiloxane	LC50 (Rat, 4 h): 36 mg/l
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Repeated dose toxicity	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	NOAEL Rat (male and female), Inhalation – vapor (vapour): 150 mg/kg Rabbit (male and female), Dermal: 950 mg/kg
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	NOAEL Rat (male and female), Oral: 1.000 mg/kg
Skin corrosion/irritation	
Product	OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) Rabbit: No skin irritation

Specified substance(s)	
Octamethylcyclotetrasiloxane	OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) Rat: No skin irritation
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) Rabbit, 72 h: No skin irritation.
Serious Eye Damage/Eye	No eye irritation.
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	OECD-Guideline 405 (Acute Eye Irritation/Corrosion) Rabbit: Not irritating
Decamethylpentasiloxane	Rabbit: No eye irritation
Dodecamethylcyclohexasiloxane	OECD-Guideline 405 (Acute Eye Irritation/Corrosion) Rabbit, 72 h: No eye irritation, No irritating
Respiratory or Skin Sensitization	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	OECD-Guideline 406 (Skin Sensitisation) Guinea Pig: Not sensitizing
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	Maximisation Test, OECD-Guideline 406 (Skin Sensitisation) Guinea Pig: negative,
Germ Cell Mutagenicity	
In vitro	
Product	Ames-Test (OECD-Guideline 471) Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay: negative (not mutagenic)
Specified substance(s)	
Octamethylcyclotetrasiloxane	Ames-Test (OECD-Guideline 471) Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay: negative (not mutagenic) Mouse Lymphoma Assay (OECD Guidline 476): negative (not mutagenic)
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	Ames-Test (OECD-Guideline 471) Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay: negative
In vivo	
Product	No data available.
Specified substance(s)	

Octamethylcyclotetrasiloxane	Chromosomal aberration (OECD-Guideline 474)
	Genetic Toxicology: Micronucleus Test
	Inhalation (Rat, male and female): negative
	Dominant lethal assay (OECD 478)
	Oral (Rat, male and female): negative
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	OECD-Guideline 474
	Genetic Toxicology: Micronucleus Test
	OECD-Guideline 474 (Genetic Toxicology): Micronucleus Test
	Intraperitoneal (Mouse, male and female): negative
Carcinogenicity	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Reproductive toxicity	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Specific Target Organ Toxicity - Single Exposure	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Specific Target Organ Toxicity - Repeated Exposure	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Aspiration Hazard	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.

Other effects

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day, 14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level—a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

SECTION 12: Ecological Effects

Toxicity

Acute toxicity

Fish

Product	No data available.

Specified substance(s)

Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	Oncorhynchus mykiss, 14 d: > 16 mg/l
	NOEC (Oncorhynchus mykiss, 14 d): 16 mg/l
Dodecamethylcyclohexasiloxane	No data available.

Aquatic invertebrates

Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
Chronic Toxicity	
Fish	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	NOEC (Pimephales promelas, 49 d): 0,0044 mg/l
Aquatic Invertebrates	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	NOEC (Daphnia magna, 21 d): 0,0046 mg/l EC50 (Sediment Invertebrate, 28 d): > 420 mg/l LOEC (Sediment Invertebrate, 28 d): >= 420 mg/l
Toxicity to Aquatic Plants Product	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	NOEC (Algae (Pseudokirchneriella subcapitata), 72 h) : >0.002mg/l (OECD Test Guideline 201) NOEC (Algae (Pseudokirchneriella subcapitata), 72 h): > 0.002mg/l (OECD Test Guideline 201)
Persistence and Degradability	
Biodegradation	
Product	No data available.
Specified substance(s)	
Octamethylcyclotetrasiloxane	29 d, 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test): 3.7% Persistent Not readily biodegradable.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.
BOD/COD Ratio	
Product	No data available.
Specified substance(s)	

Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.

Bioaccumulative potential

Product	No data available.

Specified substance(s)

Octamethylcyclotetrasiloxane	Fathead Minnow, Bioconcentration Factor (BCF): 12,40
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.

Mobility in soil No data available.

Known or predicted distribution to environmental compartments

Octamethylcyclotetrasiloxane	No data available.
Decamethylpentasiloxane	No data available.
Dodecamethylcyclohexasiloxane	No data available.

Results of PBT and vPvB assessment

Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB)

Octamethylcyclotetrasiloxane

Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB)
Octamethylcyclotetrasiloxane (D4) meets the current EU REACH Annex XIII criteria for PBT and vPvB and has been added to the candidate list for Substances of very high concern (SVHC). However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by naturally occurring reactions in the atmosphere. Any D4 in air that does not degrade by these reactions is not expected to deposit from the air to water, to land, or to living organisms.

Decamethylpentasiloxane

vPvB: very Persistent and very Bioaccumulative substance
Decamethylcyclopentasiloxane (D5) meets the current EU REACH Annex XIII criteria for vPvB and has been added to the candidate list for Substances of very high concern (SVHC). However, D5 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D5 is not biomagnifying in aquatic and terrestrial food webs. D5 in air will degrade by naturally occurring reactions in the atmosphere. Any D5 in air that does not degrade by these reactions is not expected to deposit from the air to water, to land, or to living organisms.

Dodecamethylcyclohexasiloxane

vPvB: very Persistent and very Bioaccumulative substance
Dodecamethylcyclohexasiloxane (D6) meets the current EU REACH Annex XIII criteria for vPvB and has been added to the candidate list for Substances of very high concern (SVHC). However, D6 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D6 is not biomagnifying

in aquatic and terrestrial food webs. D6 in air will degrade by naturally occurring reactions in the atmosphere. Any D6 in air that does not degrade by these reactions is not expected to deposit from the air to water, to land, or to living organisms.

Other adverse effects No data available.

SECTION 13:Disposal considerations

Waste treatment methods

General information No data available.

Disposal methods Can be incinerated when in compliance with local regulations.

SECTION 14:Transport Information

ADR Not regulated.

AND Not regulated.

RID Not regulated.

IMDG Not regulated.

IATA Not regulated.

Special precautions for user

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods. Keep away from foodstuffs and animal feed.

Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

Special precautions for user

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods. Keep away from foodstuffs and animal feed.

SECTION 15:Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer

None

Regulation (EC) No. 850/2004 on persistent organic pollutants

None

Regulation (EC) No. 649/2012 Import and export of dangerous chemicals

None

Regulation (EC) No.1907/2006, REACH Annex XIV Substances subject to authorization, as amended

None

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC)

Chemical name	CAS-No.	Concentration
Octamethylcyclotetrasiloxane	556-67-2	0 - <=0.8%
Decamethylpentasiloxane	541-02-6	0 - <=0.5%.
Dodecamethylcyclohexasiloxane	540-97-6	0 - <=0.3%.

Chemical safety assessment

No Chemical Safety Assessment has been carried out.

Inventory Status

Australia AICS	On or in compliance with the inventory Remarks: None.
Canada DSL Inventory List	On or in compliance with the inventory Remarks: None.
EINECS, ELINCS or NLP	On or in compliance with the inventory Remarks: None.
Japan (ENCS) List	On or in compliance with the inventory Remarks: None.
China Inv. Existing Chemical Substances	On or in compliance with the inventory Remarks: None.
Korea Existing Chemicals Inv. (KECI)	On or in compliance with the inventory Remarks: None.
Canada NDSL Inventory	On or in compliance with the inventory Remarks: None.
Philippines PICCS	On or in compliance with the inventory Remarks: None.
US TSCA Inventory	On or in compliance with the inventory Remarks: None.
New Zealand Inventory of Chemicals	On or in compliance with the inventory Remarks: None.
Taiwan Chemical Substance	On or in compliance with the inventory Remarks: None.

REACH

All substances in this product have been registered by our company or upstream in our supply chain or are exempt from registration under Regulation (EC) No 1907/2006 (REACH). For polymers, this includes the constituent monomers and other reactants.

SECTION 16:Other Information

Key literature references and sources for data

No data available.

Wording of the H-statements in section 2 and 3

H226	Flammable liquid and vapor.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
Training information	No data available.

Further information

It must be recognized that the physical and chemical properties of any product may not be fully

understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.