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

Product Identifier

Product Name: POWSIL™-59254
 Chemical Name: Polyether Terminate Silicone Fluid

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

Classification according to REGULATION (EC) No 1272/2008[EU-GHS/CLP]

Classification	H-Code
Flammable liquids, Category 3	H226
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317

Label elements

Pictogram



Signal Word: Warning

H-Code	Hazard Statements
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
P-Code	Precautionary Statements
P280	Wear protective gloves/protective clothing/eye protection.
P233	Keep container tightly closed.

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P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P261	Avoid breathing vapours/spray.
P303 + P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P363	Wash contaminated clothing before reuse.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to waste disposal.

Hazard ingredients (labelling):

2-Hydroxyethyl methacrylate

Butylmethacrylate

Other hazards

Inhalation of aerosol spray may damage health.

The product hydrolyses under formation of methanol (CAS-Nr. 67-56-1). Methanol is classified concerning both physical and health hazards. The hydrolysis rate and consequently the relevance for the hazard profile of the product is strongly dependent on the specific conditions.

Endocrine disrupting properties - human health: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties - environment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Substances

not applicable

Mixtures

Chemical characteristics

Hazardous ingredients according to Regulation (EC) No 1272/2008

alkylsilicone resin with alkoxy groups + methacrylic acid ester

Hazardous ingredients

Type	CAS No.	Substance	Content %
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INHA	868-77-9	2-Hydroxyethyl methacrylate	>=10 – <=20
INHA	97-88-1	Butylmethacrylate	>=10 – <20
VERU	67-56-1	Methanol	>=0,5 – <1
VERU	97-90-5	Ethylene dimethacrylate	>=0,1 – <0,3
VERU	97-86-9	Isobutyl methacrylate	>=0,1 – <0,3

Type: INHA: ingredient, VERU: impurity

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57) in amounts above $\geq 0.1\%$.

SECTION 4: First aid measures

Description of first aid measures

General information:

Take persons to a safe place. Observe self-protection for first aid. In the event of allergic reactions, particularly those affecting the respiratory system, seek immediate medical advice.

After contact with the eyes:

Rinse immediately with plenty of water for 10-15 minutes. Keep eyelids well open to rinse the whole eye surface and eyelids with water. Seek medical advice and clearly identify substance.

After contact with the skin:

Remove contaminated or soaked clothing. Wash off with plenty of water or water and soap immediately for 10-15 minutes. In serious cases, use emergency shower immediately. Seek medical advice and clearly identify substance.

After inhalation:

Keep the patient calm. If unconscious place in stable sideways position. Protect against loss of body heat. If breathing stops, administer artificial respiration. Seek medical advice and clearly identify substance.

After swallowing:

If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice and clearly identify substance.

Most important symptoms and effects, both acute and delayed

Any relevant information can be found in other parts of this section.

Indication of any immediate medical attention and special treatment needed

Product can lead to sensitisation and can trigger allergies. After inhalation: treat as early as possible using cortisone spray. Further toxicology information in section 11 must be observed.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

alcohol-resistant foam, carbon dioxide, water mist, sprinkler system, sand, extinguishing powder.

Extinguishing media which must not be used for safety reasons:

water jet.

Special hazards arising from the substance or mixture

Risk of hazardous gasses or fumes in the event of fire. Exposure to combustion products may be a health hazard! Hazardous combustion products: toxic and very toxic fumes.

Advice for firefighters

Special protective equipment for fire fighting:

Use respiratory protection independent of recirculated air. Keep unprotected persons away.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Secure the area. Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. If material is released indicate risk of slipping. Do not walk through spilled material.

Environmental precautions

Prevent material from entering surface waters, drains or sewers and soil. Close leak if possible without risk. Contain any fluid that runs out using suitable material (e.g. earth). Retain contaminated water/extinguishing water. Dispose of in prescribed marked containers. Inform authorities if substance leaks into surface waters, sewerage or ground.

Methods and material for containment and cleaning up

Take up mechanically and dispose of according to local/state/federal regulations. Do not flush away with water. For small amounts: Absorb with a neutral (non-acidic / non-basic) liquid binding material such as diatomaceous earth and dispose of according to government regulations. For large amounts: Liquids may be recovered using suction devices or pumps. If flammable, only air driven or properly rated electrical equipment should be used. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner. Silicone fluids are slippery; spills are a safety hazard. Apply sand or other inert granular material to improve traction.

Further information:

Exhaust vapours. Eliminate all sources of ignition. Consider explosion protection. Observe notes under section 7.

Reference to other sections

Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

SECTION 7: Handling and storage

Precautions for safe handling

General information:

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Avoid exposure by technical measures or personal protective equipment.

Precautions for safe handling:

Ensure adequate ventilation. Must be syphoned off in situ. Spilled substance increases risk of slipping. Avoid formation of aerosols. In case of aerosol formation special protective measures are required (exhausting by suction, respiratory protection). Observe information in section 8. Keep away from incompatible substances in accordance with section 10.

Precautions against fire and explosion:

Product can separate methanol. Flammable vapors may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

Conditions for safe storage, including any incompatibilities

Conditions for storage rooms and vessels:

Protect against light. Observe local/state/federal regulations.

Advice for storage of incompatible materials:

Observe local/state/federal regulations.

Further information for storage:

Store in a dry and cool place. Protect against moisture. Store container in a well ventilated place. Store in the dark. The effect of direct sunlight or UV radiation must be completely ruled out, even during transit. In the product and in the gas space of the container, a small quantity of oxygen must be present for stabilisation.

Maximum temperature allowed during storage and transportation: 25 °C

Temperature limit to maintain product quality.

Specific end use(s)

No data available.

SECTION 8: Exposure Controls/Personal Protection

Control parameters

Maximum airborne concentrations at the workplace:

Substance	Type	mg/m ³	ppm	Dust fract.	Fibre/m ³
Aerosol - inhalable fraction		10,0			

The aerosol limit specified is a recommendation should aerosol be formed during processing.

Exposure controls

Exposure in the work place limited and controlled

General protection and hygiene measures:

Avoid exposure - obtain special instructions before use. Observe standard industrial hygiene practices for the handling of chemical substances. Do not inhale gases/vapours/aerosols. Use with adequate

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ventilation. Avoid contact with eyes and skin. Preventive skin protection recommended. Remove contaminated, soaked clothing immediately. Keep working clothes separately. Clean work areas regularly. Provide emergency shower and eye-bath. Wash hands at the end of work and before eating. Do not eat, drink or smoke when handling. Keep away from foodstuff, drink and feedingstuff.

Further information for system design and engineering measures

Observe information in section 7. Observe national regulatory requirements.

Personal protection equipment:

Respiratory protection

If inhalative exposure above the occupational exposure limit cannot be excluded, adequate respiratory protection equipment must be used. Suitable respiratory equipment: Respirator with a full face mask, according to acknowledged standards such as EN 136. Recommended Filter type: Gas filter type ABEK (certain inorganic, organic and acidic gases and vapors; ammonia/amines), according to acknowledged standards such as EN 14387

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Suitable respiratory equipment: Respirator with a full face mask, according to acknowledged standards such as EN 136.

Recommended Filter type: Combined filter type ABEK-P2 (certain inorganic, organic and acidic gases and vapors; ammonia/amines; particles), according to acknowledged standards such as EN 14387

Observe the equipment manufacturer's information and wear time limits for respirators.

Eye protection

tight fitting protective goggles.

Hand protection

Protective gloves are required at all times when handling the material, according to recognized standards such as EN374.

Recommended glove types: Protective gloves made of butyl rubber
 thickness of the material: > 0,3 mm

Breakthrough time: 60 - 120 min

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Note that, due to the numerous external influences (such as temperature), a chemically resistant protective glove in daily use may have a service life that is considerably shorter than the measured break through time.

Skin protection

If handled uncovered: Chemical protective clothing, full-body liquid-tight protection if necessary. Please observe the instructions regarding permeability time which are provided by the supplier.

Exposure to the environment limited and controlled

Prevent material from entering surface waters, drains or sewers and soil.

SECTION 9: Physical and Chemical Properties

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Information on basic physical and chemical properties

Property	Value	Method
Appearance		
Physical state	liquid	
Colour\	colorless transparent	
Odour		
Odour	acrylic	
Odour limit		
Odour limit	no data available	
pH-Value		
pH-Value	Not applicable. Product displays neutral reaction with water.	
Melting point/freezing point		
Melting point / melting range	not determined	
Initial boiling point and boiling range		
Boiling point / boiling range	163 °C at 1013 hPa	(Lit.)
Flash point		
Flash point	54 °C	(ASTM D7094)
Evaporation rate		
Evaporation rate	no data available	
Upper/lower flammability or explosive limits		
Lower explosion limit (LEL)	2 Vol-%	(Lit.)
Upper explosion limit (UEL)	8 Vol-%	(Lit.)
Vapour pressure		
Vapour pressure	3 hPa / 20 °C	(Lit.)
Solubility(ies)		
Water solubility / miscibility	practically insoluble	
Vapour density		
Relative gas/vapour density	no data available	
Relative Density		
Relative Density	1,1 (25 °C)(Water / 4 °C = 1,00)	(DIN 51757)
Density	1,1 g/cm ³ (25 °C)	(DIN 51757)
Partition coefficient: n-octanol/water		
Partition coefficient: n-octanol/water	not applicable	
Auto-ignition temperature		
Ignition temperature	Not determined.	
Decomposition temperature		
Thermal decomposition	no data available	
Self-Accelerating Polymerization		

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Temperature (SAPT)	> 75 °C (1-kg-packaging)	(estimation)
Self-Accelerating Polymerization		
Temperature (SAPT)	> 75 °C (50-kg-packaging)	(estimation)
Self-Accelerating Polymerization		
Temperature (SAPT)	> 75 °C (200-kg-drum)	(estimation)
Self-Accelerating Polymerization		
Temperature (SAPT)	> 75 °C (1000-kg-IBC)	(estimation)
Viscosity		
Viscosity (dynamic)	100 - 400 mPa.s at 25 °C	(DIN 53019)
Viscosity (kinematic)	no data available	
Molecular mass		
Molecular mass	not applicable	
Other information		
No data available.		

SECTION 10: Stability And Reactivity

Reactivity; Chemical stability; Possibility of hazardous reactions

If stored and handled in accordance with standard industrial practices no hazardous reactions are known. Relevant information can possibly be found in other parts of this section.

Conditions to avoid

Moisture, heat, open flames, and other sources of ignition. Possibility of spontaneous polymerization of unstabilized product by ambient temperature.

Incompatible materials

water, strong oxidizing agents, basic substances and acids. Radical initiators (peroxid, light, heat, heavy metal compounds) may cause polymerization.

Hazardous decomposition products

Methanol by hydrolysis. Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

SECTION 11: Toxicological Information

Information on toxicological effects

General information

Data derived for the product as a whole are of higher priority than data for single ingredients.

Acute toxicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Acute toxicity estimate (ATE):

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ATEmix (Oral): > 2000 mg/kg

Data on substances:

Butylmethacrylate:

Exposure routes

Result/Effect

Oral

LD50 > 2000 mg/kg

Species: Rat, Method: OECD 401

dermal

LD50 > 2000 mg/kg

Species: Rabbit, Method: OECD 402

by inhalation (aerosol)

LC50 29 mg/l / 4901 ppm; 4 h

Species: Rat, Sex: male and female, Method: OECD 403,

Source: ECHA

2-Hydroxyethyl methacrylate:

Exposure routes

Result/Effect

Oral

LD50 > 5000 mg/kg Species: Rat, Source: ECHA

dermal

LD50 > 5000 mg/kg

Species: Rabbit, Source: ECHA

Skin corrosion/irritation

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Data on substances:

2-Hydroxyethyl methacrylate:

No skin irritation

(Species: Rabbit, Source: ECHA)

Serious eye damage/eye irritation

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Data on substances:

2-Hydroxyethyl methacrylate:

mildly irritating

(Species: Rabbit, Source: ECHA)

Respiratory or skin sensitisation

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Data on substances:

Butylmethacrylate:

Exposure routes

Result

Skin contact

Sensitising

(Test system: Maximisation Test, Method: OECD 406,

Source: ECHA)

2-Hydroxyethyl methacrylate:

Exposure routes

Result

Skin contact

Sensitising

(Species: Guinea pig, Test system: Buehler Test, Source: ECHA)

Germ cell mutagenicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Data on substances:

Butylmethacrylate:

negative

(Test system: mutation assay (in vitro) / bacterial cells, Method: OECD 471, Source: ECHA)

negative

(Test system: mutation assay (in vitro) / mammalian cells, Method: OECD 476, Source: ECHA)

negative

(Test system: chromosome aberration assay (in vitro) / mammalian cells, Method: OECD 473, Source: ECHA)

Carcinogenicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Reproductive toxicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Specific target organ toxicity - single exposure

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Data on substances:

Butylmethacrylate:

Irritating to respiratory system.

Specific target organ toxicity - repeated exposure

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Aspiration hazard

Assessment:

For this endpoint no toxicological test data is available for the whole product.

Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

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Regulation (EU) 2018/605 at levels of 0.1% or higher.

Data on substances:

Butylmethacrylate:

No data available.

2-Hydroxyethyl methacrylate:

No data available.

Further toxicological information

Methanol (CAS 67-56-1) is readily and rapidly absorbed at all exposure routes and is toxic by all routes. Methanol may cause irritation of the mucosa, as well as nausea, vomiting, headaches, vertigo and visual disorders, including blindness (irreversible damage to the optic nerve), acidosis, spasms, narcosis and coma. There may be a delay in the onset of these effects after exposure.

SECTION 12: Ecological Effects

Toxicity

Assessment:

For the product as a whole, no test data is available.

Data on substances:

Data derived for the product as a whole are of higher priority than data for single ingredients.

Butylmethacrylate:

Result/Effect	Species/Test system	Source
LC50: 5,6 mg/l	semi-static test Pimephales promelas (fathead minnow) (96 h)	ECHA OECD 203
EC50: 25,4 mg/l	static test Daphnia magna (Water flea) (48 h)	ECHA OECD 202
EC50: 31,2 mg/l	Pseudokirchneriella subcapitata (green algae) (72 h)	ECHA OECD 201
NOEC: 24,8 mg/l	Pseudokirchneriella subcapitata (green algae) (72 h)	ECHA OECD 201
NOEC: 1,1 mg/l	Daphnia magna (Water flea) (21 d)	ECHA OECD 211

2-Hydroxyethyl methacrylate:

Result/Effect	Species/Test system	Source
LC50: > 100 mg/l	Oryzias latipes (Ricefish) (96 h)	ECHA
EC50: > 100 mg/l	Daphnia magna (Water flea) (48 h)	ECHA
IC50 (Growth rate): > 100 mg/l	Pseudokirchneriella subcapitata (green algae) (72 h)	ECHA
NOEC (Growth rate): > 100 mg/l	Pseudokirchneriella subcapitata	

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NOEC: 24,1 mg/l (green algae) (72 h) ECHA
 Daphnia magna (Water flea) (21 d) ECHA

Persistence and degradability

Assessment:

For the product as a whole, no test data is available.

Data on substances:

Butylmethacrylate:

Biodegradation:

Result	Test system/Method	Source
88 % / 28 d		
Readily biodegradable.	no data available	no data available

2-Hydroxyethyl methacrylate:

Biodegradation:

Result	Test system/Method	Source
92 - 100 % / 14 d		
Readily biodegradable.	no data available	ECHA OECD 301C

Bioaccumulative potential

Assessment:

For the product as a whole, no test data is available.

Mobility in soil

Assessment:

For the product as a whole, no test data is available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Data on substances:

Butylmethacrylate:

No data available.

2-Hydroxyethyl methacrylate:

No data available.

Other adverse effects

none known

SECTION 13: Disposal considerations

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Waste treatment methods

Material

Recommendation:

Material that cannot be used, reprocessed or recycled should be disposed of in accordance with Federal, State, and local regulations at an approved facility. Depending on the regulations, waste treatment methods may include, e.g., landfill or incineration.

Uncleaned packaging

Recommendation:

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations. Uncleaned packaging should be treated with the same precautions as the material.

SECTION 14: Transport Information

UN number; UN proper shipping name; Transport hazard class(es); Packing group

Road ADR:

Valuation	Dangerous Goods
UN no	2227
Proper Shipping Name	n-Butylmethacrylat, stabilisiert, Lösung
Class	3
Packaging Group	III

Railway RID:

Valuation	Dangerous Goods
UN no	2227
Proper Shipping Name	n-Butylmethacrylat, stabilisiert, Lösung
Class	3
Packaging Group	III

Transport by sea IMDG-Code:

Valuation	Dangerous Goods
UN no	2227
Proper Shipping Name	n-Butyl methacrylate, stabilized, solution
Class	3
Packaging Group	III

Air transport ICAO-TI/IATA-DGR:

Valuation	Dangerous Goods
UN no	2227
Proper Shipping Name	n-Butyl methacrylate, stabilized, solution
Class	3
Packaging Group	III

Environmental hazards

Hazardous to the environment: no

Marine Pollutant (IMDG): no

Special precautions for user

Air transport: It must be ensured that there is a sufficient level of stabilization to prevent the substance in the packaging from dangerous polymerization at a bulk mean temperature of 50°C!

Relevant information in other sections has to be considered.

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

Bulk transport in tankers is not intended.

SECTION 15: Regulatory Information

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

National and local regulations must be observed.

For information on labelling please refer to section 2 of this document.

Details of international registration status

Relevant information about individual substance inventories, where available, is given below.

Japan

ENCS (Handbook of Existing and New Chemical Substances):

This product is not listed or in compliance with the substance inventory.

Australia

AiIC (Australian Inventory of Industrial Chemicals):

This product is not listed or in compliance with the substance inventory.

China

IECSC (Inventory of Existing Chemical Substances in China):

This product is not listed or in compliance with the substance inventory.

Canada

DSL (Domestic Substance List):

This product is not listed or in compliance with the substance inventory.

Philippines

PICCS (Philippine Inventory of Chemicals and Chemical Substances):

This product is not listed or in compliance with the substance inventory.

United States of America (USA)

TSCA (Toxic Substance Control Act Chemical Substance Inventory):

This product is not listed or in compliance with the substance inventory.

Taiwan

TCSI (Taiwan Chemical Substance Inventory):

This product is not listed or in compliance with the substance inventory.

European Economic Area (EEA)

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REACH (Regulation (EC) No 1907/2006):

General note: the registration obligations for substances imported into the EEA or manufactured within the EEA by the supplier mentioned in section 1 are fulfilled by the said supplier. The registration obligations for substances imported into the EEA by customers or other downstream users must be fulfilled by the latter.

South Korea (Republic of Korea)

AREC (Act on Registration and Evaluation of Chemicals; "K-REACH"):

Please approach your regular contact for more detailed information.

SECTION 16: Other Information

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.