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

Product Identifier

Product Name:	SiSiB® PC5221
Chemical Name:	Dimethyldimethoxysilane
CAS-No.:	1112-39-6
EC-No.:	214-189-4

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

Identified uses	For Industrial Use Intermediate chemical

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]

Class	Category	H-Code
Flammable liquids	Category 2	H225

Label elements

Labeling as per (EU) 1272/2008)

Pictogram(s)

Signal word	Danger
H-Code	Hazard statements
H225	Highly flammable liquid and vapor
P-Code	Precautionary statements
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P243	Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection.

P501 Dispose of contents/container to waste disposal.

EC-No.214-189-4

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.

SECTION 3: Composition/information on ingredients

Substances

Chemical characteristics

CAS No.:1112-39-6

organosilane

Hazardous ingredients

Type	CAS No.	EC No.	Material	Content %	Classification according to Regulation (EC) No. 1272/2008*	comment
INHA	1112-39-6	214-189-4	Dimethyldimethoxysilane	<=100	Flam. Liq. 2; H225	
VERU	67-56-1	200-659-6	Methanol	<=1	$TOT SE 1; H370 Acute Tox.3 by inhalation;H331 Acute Tox.3 dermal;H311 Acute Tox.3 oral; H301 Flam.Liq.2;H225	[1]

Type: INHA: ingredient, VERU: impurity

[1] = Hazardous or environmentally harmful substance

SECTION 4: First aid measures

Description of first aid measures

General information:

Take persons to a safe place. Observe self-protection for first aid.

Inhalation:

Keep the patient calm. If unconscious place in stable sideways position. Protect against loss of body heat. In cases of sickness seek medical advice (show label or SOS if possible).

S**kin contact:**

Remove contaminated or soaked clothing. Immediately rinse with plenty of soap and water. In the event of a visible skin change or other complaints, seek medical advice (show label or SOS where possible).

Eye contact:

Rinse immediately with plenty of water for 10-15 minutes. Seek medical advice in case of continuous irritation.

Ingestion:

If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice immediately 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

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. Further toxicology information in section 11 must be observed.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

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

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: carbon oxides, silicon oxides , incompletely burnt hydrocarbons , toxic and very toxic fumes .

Advice for firefighters

Special protective equipment for firefighters:

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/vapors/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 vapors. 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

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:

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.

Specific end use(s)

No data available.

SECTION 8: Exposure Controls/Personal Protection

Control parameters

Maximum airborne concentrations at the workplace

CAS No.	Material	Type	Mg/m³	ppm	Dust fract.	Fibre/m³
67-56-1	Methanol	OEL	266,0	200,0		
	Aerosol-inhalable fraction		10,0			

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

Derived No-Effect Level (DNEL):

Dimethyldimethoxysilane

Area of use	Value:
Worker; by inhalation; systemic (long term) systemic (acute)	88,4 mg/m³
Worker; dermal; systemic (long term) systemic (acute)	7,44 mg/kg/day
Consumer; oral; systemic (long term)	5,21 mg/kg/day

Predicted No Effect Concentration (PNEC):

Dimethyldimethoxysilane

Area of use:	Value:
freshwater	0,24 mg/l The value was derived for the hydrolysis product dimethylsilanediol
Marine water	0,024 mg/l The value was derived for the hydrolysis product dimethylsilanediol
Intermittent release	2,4 mg/l The value was derived for the hudrolysis product dimethylsilanediol
Sediment(freshwater)	0,22 mg/kg wet weight The value was derived for the hydrolysis product dimethylsilanediol
Sediment(marine water)	0,22 mg/kg wet weight The value was derived for the hydrolysis product dimethylsilanediol
Soil	0,056 mg/kg wet weight The value was derived for the hydrolysis product dimethylsilanediol
Sewage treatment plant	10 mg/l

Exposure controls

Exposure in the work place limited and controlled

General protection and hygiene measures:

Observe standard industrial hygiene practices for the handling of chemical substances. Do not inhale gases/vapors/aerosols. Use with adequate ventilation. Avoid contact with eyes and skin. Preventive skin protection recommended. Remove contaminated, soaked clothing immediately. Clean work areas regularly. Provide emergency shower and eye-bath. Do not eat, drink or smoke when handling. Keep away from foodstuff, drink and feedingstuff.

Personal protective 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

Gloves are required at all times when handling the material.

Recommended glove types:	Protective gloves made of butyl rubber
thickness of the material:	> 0,5 mm
Breakthrough time:	> 480 min
Recommended glove types:	Protective gloves made of nitrile rubber
thickness of the material:	> 0,4 mm
Breakthrough time:	10 - 30 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.

Further information for system design and engineering measures

Observe information in section 7. Observe national regulatory requirements.

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Property	**value**	**method**
Appearance:		
Form	liquid	

Color:	colorless	
Odor:	strong	
Odor limit :	no data available	
pH:	not applicable	
Melting point/range	< -30 °C	
Boiling point/range	78 °Cat 1013 hPa	
Flash point:	-11 ° C	DIN 51755
	-8 ° C	ISO 13736
Evaporation rate	no data available	
Lower explosion limit	1 Vol-%	DIN EN 1839
Upper explosion limit	not determined	
Vapor pressure:	91 hPa / 20 ° C	EU-GL.A.4
	140 hPa / 30 ° C	EU-GL.A.4
	210 hPa / 40 °C	EU-GL.A.4
	308 hPa / 50 °C	EU-GL.A.4
Water solubility:	Not applicable. Reacts with water.	
Relative gas/vapor density	No data known.	
Relative Density	0,86 (25 ° C)	DIN 51757
	(Water/ 4 ° C = 1,00)	
Density	0,86 g/cm3 (25 ° C)	DIN 51757
Partition coefficient: n-octanol/water	No data known.	
Ignition temperature	325 ° C	DIN 51794
Viscosity,(dynamic)	0,5 mPa.s at 25 ° C	DIN 51562
Explosion group	II B	EN ISO 16852
Molecular mass	120,2	

Other information

Solubility in water: Hydrolytic decomposition occurs. Explosion limits for released methanol: 5.5 - 44%(V).

pH Value: Product displays neutral reaction.

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.

Incompatible materials

Reacts with: water , basic substances and acids . Reaction causes the formation of: methanol.

Hazardous decomposition products

By hydrolysis: methanol. 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

Acute toxicity

Product details:

Route of exposure	Result/effect	Species/Test system	source
Oral	LD50: > 2007 mg/kg No mortality with the given dose.	Rat	Test report (read across substance)
Dermal	LD50: > 2000 mg/kg Based on data after oral application.	Rat	expert opinion
By inhalation(vapor)	LC50: > 4,7 mg/l; 4 h	rat	test report OECD 403

Skin corrosion/irritation

Product details

Result/effect	Species/test system	source
not irritating The given result is based on an evaluation of the whole database for this endpoint ("weight of evidence").	rabbit	test report (read across substance)

Serious eye damage/eye irritation

Product details

Result/effect	Species/test system	source
not irritating The given result is based on an evaluation of the whole database for this endpoint ("weight of evidence")	rabbit	test report (read across substance)

Respiratory or skin sensitization

Product details

Route of exposure	Result/effect	Species/test system	source
dermal	Not sensitizing	guinea-pig; Magnusson-Kligman	test report (read across substance)OECD 406

Germ cell mutagenicity

Assessment:

Based on known data a significant mutagenic potential may be excluded.

Product details:

Result/effect	Species/test system	source

negative	mutation assay (in vitro) bacterial cells	test report OECD 471
negative	chromosome aberration assay (in vitro) mammalian cells	test report OECD 473
negative	mutation assay (in vitro) mouse lymphoma cells	test report (read across substance) OECD 476
negative	chromosome aberration assay (in vivo) rat intraperitoneal; bone marrow cells	test report (read across substance) OECD 475

Carcinogenicity

Assessment:

No data known.

Reproductive toxicity

Assessment:

Based on the available data the criteria for classification as toxic to reproduction are not fulfilled.

Product details:

Result/effect (Examinations of fertility disruption)	Species/test system	Source
NOAEL:250 mg/kg	Screening test Rat Oral (gavage)	Test report OECD 422

Result/effect (Examinations of developmental toxicity and teratogenicity)	Species/test system	Source
NOAEL (developmental): 250 mg/kg NOAEL (maternal): 250 mg/kg	Screening test Rat Oral (gavage)	Test report OECD 422

Specific target organ toxicity (single exposure)

Assessment:

No data known.

Specific target organ toxicity (repeated exposure)

Assessment:

Based on the available data the criteria for classification as toxic after repeated exposure are not fulfilled.

Product details:

Result/effect	Species/test system	Source
NOAEL: 250 mg/kg LOAEL: 1000 mg/kg	Subacute study rat oral (gavage) 28 d; 7 d/w	test report OECD 422
NOAEC: 0,56 mg/l LOAEC: 2,2 mg/l Symptoms/Effect: Effects on kidney and bladder.	subchronic study rat by inhalation (vapor) 90 d; 5 d/w; 6 hours/day	test report (read across substance) OECD 413

Aspiration hazard

Assessment:

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

Further toxicological information

Hydrolysis product / impurity: 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:

No expected damaging effects to aquatic organisms.

Product details:

Result/effect	Species/test system	Source
＞126 mg/l (measured)	static rainbow trout (Oncorhynchus mykiss)	(silanol) OECD 203
EC50: > 100 mg/l (nominal)	static Daphnia magna (48 h)	Test report
IC50 (growth rate):> 118 mg/l (measured)	static Pseudokirchneriella subcapitata (72 h)	test report (silanol) OECD 201
EC50 (respiratory inhibition): > 100 mg/l	sludge (3 h)	test report (read across substance) OECD 209

Persistence and degradability

Assessment

Contact with water liberates methanol and silanol- and/or siloxanol-compounds. Methanol is readily biodegradable. Silanol- and/or siloxanol-compounds: Biologically not degradable.

Product details

Biodegradation:

result	**Test system/method**	**Source**
0%/28d Not readily biodegradable	**CO2 formation**	**Test report(silanol) OECD 310**

Hydrolysis

result	**Test system**	**Source**
Half-life ＜0,6 h	**pH 7; 25℃**	**Test report OECD 111**

Bio-accumulative potential

Assessment

No adverse effects expected.

Mobility in soil

Assessment

No data available

Results of PBT and vPvB assessment

This product contains no relevant substances considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

Other adverse effects

none known

SECTION 13:Disposal considerations

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.

Waste Disposal Legislation Ref. No.(EC)

It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

SECTION 14:Transport Information

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

Road ADR	
Valuation	Dangerous Goods
UN number	1993
Proper shipping name	Entzundbare「flussiger Stoff, n.a.g. (Dimethyldimethoxysilan)
Proper shipping name(national)	Flammable liquid, n.o.s (Dimethyldimethoxysilane)
Class	3
Packing group	II
Railway RID:	
Valuation	Dangerous Goods
UN number	1993
Proper shipping name	Entzundbare「flussiger Stoff, n.a.g. (Dimethyldimethoxysilan)
Proper shipping name(national)	Flammable liquid, n.o.s (Dimethyldimethoxysilane)

Class	3
Packing group	II
Transport by sea IMDG-Code	
Valuation	Dangerous Goods
UN number	1993
Proper shipping name	Flammable liquid, n.o.s (Dimethyldimethoxysilane)
Class	3
Packing group	II
Air transport ICAO-TI/IATA-DGR:	
Valuation	Dangerous Goods
UN number	1993
Proper shipping name	Flammable liquid, n.o.s (Dimethyldimethoxysilane)
Class	3
Packing group	II

Environmental hazards:

Hazardous to the environment: no

Marine Pollutant (IMDG): no

Special precautions for user:

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.

Relevant regulations:

SI 2002/1689: CHIP Regulations 2002

SI 2002/2677: COSHH Regulations 2002

SI 1999/3242: Management of Health & Safety at Work Regulations 1999

Health & Safety at Work Act 1974

SI 1993/1643: Environmental Protection Act 1993 & Subsidiary Regulations.

Other national and local measures relating to the workplace, pollution control, environmental protection and waste control.

Chemical safety assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product

Details of international registration status

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

South Korea (Republic of Korea):	**ECL** (Existing Chemicals List): This product is listed in, or complies with, the substance inventory.
Australia:	**AICS** (Australian Inventory of Chemical Substances): This product is listed in, or complies with, the substance inventory.
People's Republic of China:	**IECSC** (Inventory of Existing Chemical Substances in China): This product is listed in, or complies with, the substance inventory.
Canada:	**DSL** (Domestic Substance List): This product is listed in, or complies with, the substance inventory.
Philippines:	**PICCS** (Philippine Inventory of Chemicals and Chemical Substances): This product is listed in, or complies with, the substance inventory.
United States of America (USA):	**TSCA** (Toxic Substance Control Act Chemical Substance Inventory): This product is listed in, or complies with, the substance inventory.
Taiwan (Republic of China) :	**TCSI** (Taiwan Chemical Substance Inventory): This product is listed in, or complies with, the substance inventory. General note: The Taiwanese chemicals regulation requires a phase 1 registration for TCSI-listed or TCSI-compliant substances if imports to Taiwan or manufacturing in Taiwan exceed the trigger quantity of 100 kg/a (for mixtures to be calculated per each ingredient). It is the duty of the importing/manufacturing legal entity to take care of this obligation.
European Economic Area (EEA)	**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.

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.