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

Product Identifier

Product Name: SiSiB® PC1200
 Chemical Name: N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane
 CAS-No.: 1760-24-3
 EC-No.: 217-164-6

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

Relevant applications identified 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]

Skin sensitization Category 1B H317
 Serious eye damage/eye irritation Category 1 H318

Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Symbol(s)



Signal word

Danger

Hazard statement(s)

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

Precautionary statements:

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes.

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Remove contact lenses, if present and easy to do.
Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P501 Dispose of contents/container to waste disposal.

Hazard ingredients (labelling):

3-(2-Aminoethylamino)propyl trimethoxysilane

Special labelling instructions:

Contains 1,2-diaminoethane. May produce an allergic reaction.

EC- No.:217-164-6

Other hazards

Inhalation of aerosol spray may damage health.

Product hydrolyses under formation of methanol (CAS no. 67-56-1). Methanol is toxic by inhalation, in contact with skin and if swallowed. Methanol causes damage to organs. Methanol is highly flammable.

SECTION 3: Composition/information on ingredients

Substances

Chemical characteristics:

CAS No.: 1760-24-3

Hazardous ingredients

Type	CAS No.	EC-No.	Material	Content %	Classification according to Regulation (EC) No. 1272/2008*	
INHA	1760-24-3	237-511-5	3-(Trimethoxysilyl)propylamine	>=98	Eye Dam.1; H318 Skin Sens.1B; H317	[1]
VERU	68845-16-9	272-453-4	trimethoxysilyl-propyl-ethanediamine	<3	Eye Dam.1; H318	[1]
VERU	618914-51-5		1-(2-Aminoethyl)-2,2-dimethoxy-1-aza-2-silacyclopentane	<3	Eye Dam.1; H318	[1]
VERU	67-56-1	200-659-6	Methanol	<0,2	STOT SE 1; H370 Acute Tox. 3 by inhalation; H331 Acute Tox. 3 dermal; H311 Acute Tox. 3 oral; H301 Flam. Liq. 2; H225	

Type: INHA: ingredient, VERU: impurity

[1] = Hazardous or environmentally harmful substance; [2] = substance with a Community workplace

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exposure limit; [3] = PBT substance; [4] = vPvB substance

*Classification codes are explained in section 16.

Mixtures

Not applicable

SECTION 4: First aid measures

Description of first aid measures

General information:

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

In case of eye contact

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 immediately and clearly identify substance. Continue to bathe eyes during transport to medical practitioner.

In case of skin contact

Remove contaminated clothes at once. 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 immediately and clearly identify substance.

If inhaled

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 immediately and clearly identify substance.

If swallowed

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

After inhalation: treat as early as possible using cortisone spray. Product can lead to sensitization and can trigger allergies.

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:

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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 , nitrogen oxides , incompletely burnt hydrocarbons , 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/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 materials 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****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 Observe 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 according 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

If the annex to this safety data sheet contains exposure scenarios for end uses, the information provided therein has to be observed.

SECTION 8: Exposure Controls/Personal Protection**Control parameters****Maximum airborne concentrations at the workplace:**

CAS No.	Material	Type	Mg/m ³	ppm	Dust fract	Fibre/m ³
67-56-1	Methanol	OEL	266,0	200.0		
	Aerosol-inhalable fraction		10,0			

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

Derived No-Effect Level (DNEL):**3-(2-Aminoethylamino)propyl trimethoxysilane**

Area of use:	Value:
Worker; by inhalation; systemic (long term)	35,5 mg/m ³
Worker; dermal; systemic(long term) systemic (acute)	5 mg/kg/day
Consumer; oral; systemic (long term)	2,5 mg/kg/day
Consumer; by inhalation; systemic (long term)	8,7 mg/m ³
Consumer; dermal; systemic (long term)	2,5 mg/kg/day

Derived No-Effect Level (PNEC):**3-(2-Aminoethylamino)propyl trimethoxysilane**

Area of use:	Value:
freshwater	0,062 mg/l
Marine water	0,0062 mg/l
Intermittent release	0,62 mg/l
Sediment(freshwater)	0,05 mg/kg wet weight The value was derived for the corresponding silanetriol (hydrolysis product).
Sediment(marine water)	0,005 mg/kg wet weight The value was derived for the corresponding silanetriol (hydrolysis product).
soil	0,0075 mg/kg wet weight The value was derived for the corresponding silanetriol (hydrolysis product).
Sewage treatment plant	25 mg/l

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. Avoid contact with eyes and skin. Do not inhale gases/vapors/aerosols. Use with adequate ventilation.

Keep away from foodstuff, drink and feedingstuff. Preventive skin protection recommended. Wash hands at the end of work and before eating. Keep working clothes separately. Remove contaminated, soaked clothing immediately. Clean work areas regularly.

Provide emergency shower and eye-bath. Do not eat, drink or smoke when handling.

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 manufacture's information and wear time limits for respirators.

Eye protection

Tight fitting safety goggles.

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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: > 0,3 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

Appearance	Form: liquid
Color	colorless
Odor	faint
Odor limit	no data available
pH	10,5 at 25 ° C (10 g/1 H ₂ O)
Melting point/melting range	< -50 ° C
Boiling point/boiling range	14 7 ° C at 16 hPa
Flash point:	> 100 ° C (EN 22719) 139 ° C (JIS K2265-4)
Evaporation rate	no data available
Upper/lower flammability	no data available
Vapor pressure:	< 2 hPa at 20 ° C < 5 hPa at 50 ° C
Water solubility/miscibility:	completely miscible
Relative gas/vapor density	No data known.
Relative Density:	1,02 (25°C; 1013 hPa) (DIN 51757)

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	(Water/ 4 ° C = 1,00)
Density :	1,02 g/cm ³ (25 °C; 1013 hPa) (DIN 51757)
Partition coefficient: n-octanol/water	no data available
Ignition temperature	300° C (DIN 51794)
Auto-ignition temperature	not applicable
Thermal decomposition	> 150 °C
Viscosity (dynamic)	4 - 5 mPa.s at 25 °C (DIN 51562)
Oxidizing properties	no
Molecular mass	222,4

Other information

Re 9.2 pH Value: Product displays basic reaction with water.

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****Assessment**

LC50(4h), rat: 1,49 - 2,44 mg/l (as mist).

Product details:

Route of exposure	Result/Effect	Species/Test system	Source
Oral	LD50: 2995 mg/kg	Rat	Test report
Dermal	LD50: > 2000 mg/kg Neither mortality nor clinical signs of toxicity were observed with the given dose.	Rat	Test report

Skin corrosion/irritation**Product details:**

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Result/Effect	Species/Test system	Source
Mildly irritating	Rabbit	Test report OECD 404

Serious eye damage/eye irritation

Product details:

Result/Effect	Species/Test system	Source
Serious damages to eyes	Rabbit	Test report OECD 405

Respiratory or skin sensitization

Assessment:

After contact to the skin a skin sensitization is possible. The product is a skin sensitizer, sub-category 1 B.

Product details:

Route of exposure	Result/Effect	Species/Test system	Source
dermal	sensitizing	guinea-pig; Magnusson-Kligman	Test report OECD 406
dermal	sensitizing	mouse; LLNA (local lymph node assay)	Test report OECD 429

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	Mutation assay(in vitro) Mammalian cells	test report OECD 476
negative	Assay for sister chromatid exchange (in vitro) mammalian cells	test report

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: >=500 mg/kg	Rat Oral	Test report OECD 422
Result/Effect (Examinations of developmental toxicity and teratogenicity)	Species/Test system	Source
NOAEL(developmental): >=500 mg/kg. NOAEL(maternal): >=500 mg/kg	Rat Oral	Test report OECD 422

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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 \geq 500 mg/kg Symptoms/effect: Nothing abnormal detected	Subacute study Rat Oral(gavage) 28 d	Test report OECD 422

Aspiration hazard**Assessment:**

No data known.

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:**

Toxic to aquatic organisms.

Product details:

Result/Effect	Species/Test system	Source
LC50: 597 mg/l (measured)	Semistatic zebra fish (Danio rerio) (96 h)	test report
EC50: 81 mg/l (nominal)	static Daphnia magna (48 h)	test report
IC50 (growth rate): 8,8 mg/l (nominal)	static algae (72 h)	test report OECD 201
NOEC (growth rate): 3, 1 mg/l (nominal)	static algae (72 h)	test report OECD 201
EC50 (respiratory inhibition): 67 mg/l	static Pseudomonas putida (16 h)	test report
NOEC (mobility, reproduction): > 1 mg/l (nominal)	Static Daphnia magna (21 d)	test report
NOEC (mortality, growth): ≥ 1000 mg/kg	Earthworm (Eisenia fetida) (14 d)	test report OECD 207

Persistence and degradability

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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
39 % / 28 d Not readily biodegradable.	DOC - decrease	test report OECD 301A

Hydrolysis:

Result	Test system	Source
Half-life:0,025 h	pH 7; 24,7 °C	test report OECD 111

Bioaccumulative potential**Assessment:**

No adverse effects expected.

Mobility in soil**Assessment:**

No data known.

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

no data available

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 packing**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

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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: Not regulated for transport

Railway RID:

Valuation: Not regulated for transport

Transport by sea IMDG-Code:

Valuation: Not regulated for transport

Air transport ICAO-TI/IATA-DGR:

Valuation: Not regulated for transport

Environmental hazards

Hazardous to the environment: 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

For this product, a chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has been carried out.

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):

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	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

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Explanation of the GHS classification code:

Eye Dam. 1; H318.....: Serious eye damage I eye irritation Category 1; Causes serious eye damage.

Skin Sens. 18; H317 ..: Skin sensitization Category 18; May cause an allergic skin reaction.

Eye Dam. 1; H318.....: Serious eye damage I eye irritation Category 1; Causes serious eye damage.

Eye Dam. 1; H318.....: Serious eye damage I eye irritation Category 1; Causes serious eye damage.

STOT SE 1; H370: Specific target organ toxicity (single exposure) Category 1; Causes damage to organs.

Acute Tox. 3; H331.....: Acute toxicity Category 3; Toxic if inhaled.

Acute Tox. 3; H311.....: Acute toxicity Category 3; Toxic in contact with skin.

Acute Tox. 3; H301.....: Acute toxicity Category 3; Toxic if swallowed.

Flam. Liq. 2; H225.....: Flammable liquids Category 2; Highly flammable liquid and vapor.

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.