

**Material Safety Data Sheet**

Version No.: 3.0(Rev. date : 2023-06-02)

***AccuPaste*<sup>TM</sup> Insulating Paste**

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1. Product and company identification

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Phone: +82-42-930-8591

Creation Date: 06/30

Trade Name/Synonyms: *AccuPaste*<sup>TM</sup> Insulating Paste

Chemical Family: Insulating Paste

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2. Hazards identification

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**GHS classification in accordance with 29 CFR 1910.1200**

Flammable liquids : Category 2

Skin irritation : Category 2

Eye irritation: Category 2B

Reproductive toxicity : Category 2

Specific target organ system toxicity – single exposure: Category 3

Specific target organ system toxicity – repeated exposure : Category 2 (Central nervous system, Liver, Kidney, Auditory system)

GHS label elements Hazard pictograms :



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Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.

H315 + H320 Causes skin and eye irritation.

H335 May cause respiratory irritation.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs (Central nervous system, Liver, Kidney, Auditory system) through prolonged or repeated exposure.

Precautionary Statements :

**Prevention:** P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe mist or vapors.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:** P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:** P403 + P235 Store in a well-ventilated place. Keep cool.

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P405 Store locked up.

**Disposal:** P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Static-accumulating flammable liquid.

Vapors may form explosive mixture with air.

### 3. Composition/information on ingredients

Substance / Mixture : Mixture

Chemical nature: Silicone resin

chemical name	other name	CAS number	concentration(%)
Xylene	Benzene, dimethyl-	1330-20-7	>= 20 - < 30
Toluene	Benzene, methyl-	108-88-3	>= 10 - < 20
Ethylbenzene	Benzene, ethyl-	100-41-4	>= 1 - < 10
Stoddard solvent C8 to C14		8052-41-3	>= 0.1 - < 1
Zinc octoate		136-53-8	>= 0.1 - < 1
Dimethyl, diphenyl, methyl, phenyl silicone resin		28630-33-3	>= 40 - < 50

### 4. First aid measures

**General advice :** In the case of accident or if you feel unwell, seek medical advice immediately.

When symptoms persist or in all cases of doubt seek medical advice.

**If inhaled:** If inhaled, remove to fresh air.

Get medical attention.

**In case of skin contact :** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical attention.

Wash clothing before reuse.

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Thoroughly clean shoes before reuse.

**In case of eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention.

**If swallowed :** If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

**Most important symptoms and effects, both acute and delayed:**

Causes skin and eye irritation.

May cause respiratory irritation.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

**Protection of first-aiders:** First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

**Notes to physician:** Treat symptomatically and supportively.

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## 5. Fire-fighting measures

**Suitable extinguishing media :** Water spray

Alcohol-resistant foam

Carbon dioxide (CO<sub>2</sub>)

Dry chemical

**Unsuitable extinguishing media:** High volume water jet

**Specific hazards during fire fighting :** Do not use a solid water stream as it may scatter and spread fire.

Flash back possible over considerable distance.

Vapors may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

**Hazardous combustion prod-ucts :** Carbon oxides

Silicon oxides

Formaldehyde

**Specific extinguishing meth-ods :** Use extinguishing measures that are appropriate to local cir-cumstances and the surrounding environment.

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Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do so.

Evacuate area.

**Special protective equipment for fire-fighters :** In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

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## 6. Accidental release measures

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**Person-related safety precautions:** e all sources of ignition.

Ventilate the area.

Use personal protective equipment.

Follow safe handling advice and personal protective equipment recommendations.

**Measures for environmental protection:** Discharge into the environment must be avoided.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages cannot be contained.

**Measures for cleaning/collecting:** Non-sparking tools should be used.

Soak up with inert absorbent material.

Suppress (knock down) gases/vapors/mists with a water spray jet.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.

Clean up remaining materials from spill with suitable absorbent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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## 7. Handling and storage

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**Technical measures:**

Ensure all equipment is electrically grounded before beginning transfer operations.

This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations.

Restrict flow velocity in order to reduce the accumulation of static electricity.

**Local/Total ventilation:**

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation.

**Advice on safe handling:**

Do not get on skin or clothing.

Do not breathe vapors or spray mist.

Do not swallow.

Do not get in eyes.

Handle in accordance with good industrial hygiene and safety practice.

Non-sparking tools should be used.

Keep container tightly closed.

Keep away from heat and sources of ignition.

Take precautionary measures against static discharges.

Take care to prevent spills, waste and minimize release to the environment.

**Conditions for safe storage :**

Keep in properly labeled containers.

Store locked up.

Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition.

**Materials to avoid:**

Do not store with the following product types:

Strong oxidizing agents

Organic peroxides

Flammable solids  
 Pyrophoric liquids  
 Pyrophoric solids  
 Self-heating substances and mixtures  
 Substances and mixtures which in contact with water emit flammable gases  
 Explosives  
 Gases

8. Exposure controls / personal protection

**Ingredients with workplace control parameters**

Ingredients	CAS No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Xylene	1330-20-7	TWA	100 ppm	KR OEL
		STEL	150 ppm	KR OEL
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
Toluene	108-88-3	TWA	50 ppm	KR OEL
		STEL	150 ppm	KR OEL
		TWA	20 ppm	ACGIH
		STEL	125 ppm	KR OEL
Ethylbenzene	100-41-4	TWA	100 ppm	KR OEL
		TWA	20 ppm	ACGIH
		TWA	100 ppm	KR OEL
		TWA	20 ppm	ACGIH
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH

**Biological occupational exposure limits**

Ingredients	CAS No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	Methyl-hippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI

Toluene	08-88-3	Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g cre-atinine	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g cre-atinine	ACGIH BEI
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 g/g cre-atinine	ACGIH BEI

**Engineering measures:**

- Processing may form hazardous compounds (see section 10).
- Minimize workplace exposure concentrations.
- Use only in an area equipped with explosion proof exhaust ventilation.
- Use with local exhaust ventilation.
- Personal protective equipment

**Respiratory protection:**

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

**Hand protection Material :** Chemical-resistant gloves

**Remarks:**

Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.



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**Eye protection :**

Wear the following personal protective equipment:

Safety goggles

**Skin and body protection:**

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Wear the following personal protective equipment:

Flame retardant antistatic protective clothing.

Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

**Hygiene measures:**

Ensure that eye flushing systems and safety showers are located close to the working place.

When using do not eat, drink or smoke.

Wash contaminated clothing before re-use.

These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry ([www.SEHSC.com](http://www.SEHSC.com)) or contact the Dow Corning customer service group.

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**9. Physical and chemical properties**

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**Description:** Clear white to yellow. Solvent, liquid

**Melting point:** Not determined

**Boiling point:** >100 °C

**Vapor pressure:** Not determined

**Vapor density:** Not determined

**Flash point:** 13 °C

**Flammability:** Not determined

**Decomposition temperature:** Not determined

**Explosion limits:** Not determined

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**Solubility in water:** insoluble

**Relative density:** 1.02

**Viscosity:** 130 cP

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## 10. Stability and Reactivity

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**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability :** Stable under normal conditions.

**Possibility of hazardous reactions :**

Highly flammable liquid and vapor.

Vapors may form explosive mixture with air.

Use at elevated temperatures may form highly hazardous compounds.

Can react with strong oxidizing agents.

When heated to temperatures above 150 °C (300 °F) in the presence of air, trace quantities of formaldehyde may be re-leased.

Adequate ventilation is required.

See OSHA formaldehyde standard, 29 CFR 1910.1048

Hazardous decomposition products will be formed at elevated temperatures.

**Conditions to avoid:** Handling operations that can promote accumulation of static charges.

Heat, flames and sparks.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products**

Thermal decomposition: Benzene Formaldehyde

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## 11. Toxicological information

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**Information on likely routes of exposure**

Inhalation

Skin contact

Ingestion

Eye contact

**Acute toxicity**

Not classified based on available information.

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**Product:****Acute oral toxicity:**

Acute toxicity estimate: &gt; 5,000 mg/kg

Method: Calculation method

**Acute inhalation toxicity:**

Acute toxicity estimate: 29.77 mg/l

Exposure time: 4 h

Test atmosphere: vapor

Method: Calculation method

**Acute dermal toxicity:**

Acute toxicity estimate: 4,348 mg/kg

Method: Calculation method

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**12. Ecological information**

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**Toxicity to fish:**

LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates:**

IC50 (Daphnia magna (Water flea)): 1 mg/l

Exposure time: 24 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

**Toxicity to algae:**

EC10 (Pseudokirchneriella subcapitata (green algae)): 1.9 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

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ErC50 (Pseudokirchneriella subcapitata (green algae)): 4.36 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

**Toxicity to fish (Chronic toxicity):**

NOEC (Oncorhynchus mykiss (rainbow trout)): > 1.3 mg/l

Exposure time: 56 d

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**

EC10 (Daphnia magna (Water flea)): 1.91 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

**Toxicity to microorganisms:**

EC50: > 157 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

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### 13. Disposal considerations

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**Disposal methods**

**Resource Conservation and Recovery Act (RCRA):**

When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste.

**Waste Code: D001:** Ignitability

D018

**Waste from residues:** Dispose of in accordance with local regulations.

**Contaminated packaging:**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Empty containers retain residue and can be dangerous.

Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.

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If not otherwise specified: Dispose of as unused product.

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## 14. Transport information

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### International Regulations

#### UNRTDG

UN number: UN 1993

Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Toluene, Ethylbenzene)

Class: 3

Packing group: II

Labels: 3

#### IATA-DGR

UN/ID No.: UN 1993

Proper shipping name: Flammable liquid, n.o.s. (Toluene, Ethylbenzene)

Class: 3

Packing group : II

Labels: Flammable Liquids

Packing instruction (cargo aircraft) : 364

Packing instruction (passenger aircraft) : 353

#### IMDG-Code

UN number: UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S. (Toluene, Ethylbenzene)

Class: 3

Packing group : II

Labels: 3

EmS Code : F-E, S-E

Marine pollutant : no

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## 15. Regulatory information

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EINECS/ELINCS: No

NDSL/DSL: No

TSCA STATUS: No

CERCLA SECTION 103 (40 CFR 302.4): No

SARA SECTION 302 (40 CFR 355.30): No

SARA SECTION 304 (40 CFR 355.40): No

SARA SECTION 313 (40 CFR 372.65): No

OSHA PROCESS SAFETY (29 CFR 1910.119): No

CALIFORNIA PROPOSITION 65: No

SARA ACUTE HAZARD (40 CFR 370.21): No

CHRONIC HAZARD: No

FIRE HAZARD: No

REACTIVITY HAZARD: No

SUDDEN RELEASE HAZARD: No

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## 16. Other information

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Bioneer Corporation makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local laws or regulations.

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