

Safety Data Sheet

1. Identification of the product and of the company

[Product information]

Product name : BONDEST, BONDEST S
 General name : Inorganic Fireproofing Adhesive
 Recommended application : Adhesive for Calcium Silicate Thermal Insulation or Fireproofing Board
 And restrictions of use: Avoid use other than that recommended

[Corporate information]

Company name : Japan Insulation Co., Ltd
 Address : 4064-1, Azakitanuma, Nodashinden, Mizuho city, Gifu prefecture
 Section in charge : Quality Control Section, Manufacturing Division
 Telephone No. : +81-58-326-3221
 FAX : +81-58-326-8982

2. Hazards identification

GHS classification: Classification as mixture

Physical Hazards	Explosives	No classification
	Flammable gases	No classification
	Aerosols	No classification
	Chemicals under pressure	No classification
	Oxidizing gases	No classification
	Gas under pressure	No classification
	Flammable liquids	No classification
	Flammable solids	No classification
	Self-reactive substance and mixtures	No classification
	Pyrophoric liquids	No classification
	Pyrophoric solids	No classification
	Self-heating substances and mixtures	No classification
	Substances and mixtures which, in contact with water, emit flammable gases	No classification
	Oxidizing liquids	Classification not possible
	Oxidizing solids	Classification not possible
	Organic peroxides	No classification
	Corrosive to metals	Classification not possible
	Desensitize explosives	No classification
Health Hazards	Acute toxicity (oral)	Category 4
	Acute toxicity (dermal)	Classification not possible
	Acute toxicity (Inhalation: Gases)	No classification
	Acute toxicity (Inhalation: Vapors)	No classification
	Acute toxicity (Inhalation: Dusts)	Classification not possible
	Acute toxicity (Inhalation: mists)	No classification
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Respiratory sensitization	Classification not possible
	Skin sensitization	Classification not possible
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 1A
	Reproductive toxicity	Classification not possible
	Specific target organ toxicity (single exposure)	Classification not possible
	Specific target organ toxicity (repeated exposure)	Category 1
	Aspiration hazard	Classification not possible

Environmental Hazards	Hazardous to the aquatic environment Short-term(acute)	Classification not possible
	Hazardous to the aquatic environment Long-term(chronic)	Classification not possible
	Hazardous to the ozone layer	Classification not possible

Note) The component, which information or knowledge for GHS classification is unavailable, is not included into evaluation or is classified into "Classification not possible".

GHS label elements:

< Pictograms >



< Signal words >

Danger

< Hazardous information >

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause cancer by inhalation of dust generated from grinding or cutting the product after drying.

Causes damage to the immune system, respiratory system, and kidneys through prolonged or repeated inhalation exposure to dust generated from grinding or cutting the product after drying.

< Safety measures >

Obtain and read the instruction manual (or the Safety Data Sheet if no manual is available) before use, and follow all safety precautions.

Do not inhale dust generated by grinding, cutting, or similar operations on the product after drying.

Wear appropriate protective equipment (as specified in Section 8).

Do not eat, drink, or smoke in the work area during handling.

Wash hands thoroughly after handling. Avoid touching the eyes.

< Emergency measures >

If exposed or if there is concern of exposure, seek medical advice.

If you feel unwell, seek medical attention.

If swallowed: Rinse mouth. Do not induce vomiting.

If on skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water for several minutes.

Wash contaminated clothing before reuse.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek emergency medical attention immediately.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

< Storage >

Do not store the product in locations where it may be exposed to rain.

Store the packaging container in a cool, dark place away from direct sunlight.

After opening, keep the container tightly sealed to prevent drying.

As this product is an adhesive, curing may be accelerated. Even under the above storage conditions, the product may harden after six months from the date of manufacture. Use promptly.

After opening, curing will progress over time. Use the product as soon as possible.

< Disposal >

Please dispose the product in accordance with local/regional/national/international regulation.

3. Composition/Information of ingredients

Substance/Mixture: Mixture

Chemical name or General name	CAS No.	Official Gazette published docket number	Content (%)
Sodium silicate	1344-09-8	1-508	45~55

Crystalline silica	14808-60-7	1-548	10~20
--------------------	------------	-------	-------

Note) Information of the raw materials, which are main components, or considered to have risk hazard, are listed in above table.

This product does not include asbestos fiber.

This product does not fall under formaldehyde releasing building material, so it is out of notified material. Hence, this product does not contain substances regulated by the Building Code such as chlorpyrifos and formaldehyde because these substances are not used as raw materials or in the process.

Furthermore, the chemical substances which are mentioned below are not used similarly to the product.

Toluene, Xylene, Paradichlorobenzene, Ethylbenzene, Styrene, Di-n-butyl phthalate, Tetradecane, Di-2-ethylhexyl phthalate, Diazinon, Acetic aldehyde, Fenobucarb, Other volatile organic compounds.

4. First-aid measures

- | | |
|--------------------------|---|
| If swallowed: | Rinse your mouth.
Do not induce vomiting.
If you feel unwell, get medical advice/attention. |
| If on skin: | Remove all contaminated clothing immediately.
Wash the skin with running water or take a shower. |
| If in eyes: | Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do.
Continue rinsing. |
| If exposed or concerned: | Get medical advice/attention.
Wash contaminated clothing before reuse. |

5. Fire-fighting measures

Because this product is noncombustible, it is unnecessary to take fire-fighting measure.

Suitable Extinguishing Media: Not present due to noncombustible.

Inappropriate Media: Not present due to noncombustible.

6. Accidental Release Measures

<Precautions for the human body >

If the container of this product is damaged and the contents spill onto the floor or other surfaces, wear appropriate protective equipment as specified in Section 8 to avoid skin or eye contact, and clean up the spill promptly.

<Precautions for the environment >

Be careful not to be discharged into rivers, etc. and cause an impact on the environment.

<Containment and purification methods and equipment >

For small spills: Wipe up with rags or other absorbent materials.

For large spills: Recover as much material as possible into a tank or suitable container, as necessary.

7. Handling and Storage

[Precautions on handling]

Obtain this data sheet before use, and do not handle until all safety precautions have been read and understood.

- Please wear the appropriate protective gear as indicated in section 8.
- Do not eat, drink, or smoke in the work area where this product is handled.

[Precautions on storage]

Do not store the product in areas exposed to rain or moisture.

As this product is an adhesive, curing may be accelerated. Store the container in a cool, dark place away from direct sunlight.

Even under the recommended storage conditions, the product may harden after six months from the manufacturing date. Use it as soon as possible.

After opening, curing will progress over time. Use the product promptly.

8. Exposure Controls/Personal Protection

[Engineering measures]

Install a hand-washing station or washbasin near the handling area as necessary.

Eye and Face Protection

Wear safety spectacles or goggles compliant with JIS T 8147.

Skin and Body Protection

Wear impermeable protective clothing suitable for the work to prevent skin exposure.

Hand Protection

Wear impermeable chemical-resistant gloves compliant with JIS T 8166.

Recommended materials: Nitrile rubber gloves. Butyl rubber gloves

Do not use non-impermeable gloves such as cotton work gloves.

Dust protective mask

When grinding or cutting the product after it has dried, wear a dust mask approved by the national certification authority.

Ensure proper fit by performing a fit test and paying particular attention to the seal against the face.

For replaceable-filter dust masks, properly maintain them by inspecting and replacing filters and checking for deterioration of inhalation/exhalation valves.

9. Physical/Chemical Properties

Physical state:	Pasty
Color:	Gray
Odor:	None.
Boiling Point or Initial Boiling Point and Boiling Range:	About 100°C
Freezing Point:	About 0°C
Flammability:	Nonflammable
Lower and Upper Explosion Limit /Flammable Limits	
(Approximate volume % in air):	Not applicable.
Flash point:	Not flammable.
Auto-ignition Temperature:	None.
Decomposition Temperature:	Lack of data.
pH:	11–12 (alkaline)
Kinematic Viscosity:	Lack of data.
Vapor Pressure:	Not applicable.
Bulk density:	About 1.5 to 1.9g/cm ³
Relative Vapour Density (Air = 1):	Not applicable.
Particle Characteristics:	Not applicable.

10. Stability and Reactivity

It will solidify when left exposed to air.

Reactivity:	Solidifies when left in the atmosphere.
Chemical stability:	Partially dissolves in acids, but detailed data are not available.
Possibility of hazardous reactions:	Lack of data.
Conditions to avoid:	Lack of data.
Incompatible materials:	Lack of data.
Hazardous decomposition products:	Lack of data.

11. Toxicological Information

Acute toxicity (oral):	The product contains 45 to 50% of “Sodium silicate, GHS Category 4”. So it is classified into Category 4.
Acute toxicity (dermal):	Classification not possible due to lack of data.
Acute toxicity (inhalation: gas):	Not applicable.
Acute toxicity (inhalation: vapour):	Not applicable.
Acute toxicity (inhalation: dust):	Classification not possible due to lack of data.

Acute toxicity (inhalation: mist):	Not applicable.
Skin corrosion/irritation:	The product contains 1.0% or more of "Sodium silicate, GHS Category 1". So it is classified into Category 1.
Serious eye damage/eye irritation:	The product contains 1.0% or more of "Sodium silicate, GHS Category 1". So it is classified into Category 1.
Respiratory sensitization or	
Skin sensitization:	Classification not possible due to lack of data.
Germ cell mutagenicity:	The product contains 1.0% or more of 'Crystalline silica ,GHS Category 2'. Since workers may be exposed to dust when the dried product is cut or processed, it is classified as Category 2."
Carcinogenicity:	The product contains 0.1% or more of 'Crystalline silica , GHS Category 1A'. Since workers may be exposed to dust when the dried product is cut or processed, it is classified as Category 1A."
Reproductive toxicity:	Classification not possible due to lack of data.
Specific target organ toxicity	Classification not possible due to lack of data.
(single exposure):	
Specific target organ toxicity	The product contains 1.0% or more but less than 10% of
(repeated exposure):	'Crystalline silica (GHS Category 1)'. Since workers may be exposed to dust when the dried product is cut or processed, it is classified as Category 1.
Aspiration hazard:	Classification not possible due to lack of data.

[Information of component]

Information of crystalline silica

Acute toxicity:	None.
Germ cell mutagenicity	From in vivo, in vitro hprt genetic mutation test, it is suspected of causing genetic defects.
Carcinogenicity:	IARC Carcinogenicity Group 1 (carcinogenic to human)
Specific target organ toxicity	May cause pneumoconiosis and etc. through prolonged and
(repeated exposure):	considerable inhalation.
Others:	If exposed period is short, in the case of high inhalation concentration, it may cause influence to respiratory system.

Information of sodium silicate

As Na₂O / SiO₂, the next information is reported.

Acute toxicity:	Oral LD ₅₀ Rat: 1,280mg/kg 1,600mg/kg Mouse: 1,100mg/kg Rabbit: 1,100mg/kg
Skin irritation:	Severe irritation by alkalinity
Eye irritation:	Severe pain by irritating tissue.
Swallow:	Stimulate the mucous membranes such as respiratory system, lungs, stomach.

12. Ecological information

Hazardous to the aquatic environment (acute):	Classification not possible due to lack of data.
Hazardous to the aquatic environment(long-term):	Classification not possible due to lack of data.
Persistence and degradability:	lack of data.

Bioaccumulative potential:	lack of data.
Mobility in soil:	lack of data.
Hazardous to ozone layer:	Classification not possible due to lack of data.

[Information of component]**Information of sodium silicate**

As Na₂O / SiO₂, the next information is reported.

Toxicity of fish:	Ganbsia affinis (lake)	TLm 96h 2,400ppm
		TLm 96h 2,400ppm
	Amphipoda	TLm 48h 263ppm
		TLm 96h 1600ppm
	Dephnia magna (Invertebrate)	TLm 96h 247ppm
Water emission standard:	Keep the hydrogen ion concentration 5.8-8.6 defined by Japanese Prime Minister Office Ordinance of Water Pollution Control Law.	
	(If there are effluent standards in local ordinances, follow them.)	

13. Disposal Consideration

If this product is disposed of as part of business activities, it will be classified as industrial waste.

When disposing of this product, comply with the Waste Management and Public Cleansing Act.

In addition, wastewater such as wash water must be treated by methods such as coagulative precipitation or activated sludge before discharge.

Also comply with the Water Pollution Control Act.

14. Transport Information

In case of transportation, check that container does not have leakage and load it without harm by overturning, falling, and prevent the collapse of cargo certainly.

[Domestic regulation]

Refer to Clause 15

[International regulation]**Marine transportation(IMDG)**

UN Number:	3262
Proper Shipping Name:	CORROSIVE SOLID, BASIC, INORGAINC,N.O.S
UN Classification:	8
Packing Group:	III
Hazard Label:	Corrosive

Air transportation

UN Number:	3262
Proper Shipping Name:	CORROSIVE SOLID, BASIC, INORGAINC,N.O.S
UN Classification:	8
Packing Group:	III
Hazard Label:	Corrosive

15. Japanese Regulatory Information

Check local laws and ordinances in each region.

Industrial Safety and Health Law:	Notifiable Substance: Crystalline silica (Quartz) Carcinogenic Substance: Crystalline silica (Quartz)
Law Concerning the Reporting of the Release into the Environment of Specific Chemical Substances and Promoting Improvements in Their Management. (PRTR Law):	No application.
Poisonous and Deleterious Substances Control Law:	No application.

Ordinance on Prevention of Dangers Due to Dust:	No application.
Pneumoconiosis Act:	No application.
Ship Safety Law:	Corrosive substance
Aviation Law:	Corrosive substance
Act on Prevention of Marine Pollution and Maritime Disaster:	Hazardous liquid substances. Y-type substances (It is limited to the material transported as liquid cargo of the bulk by ship)
Water Pollution Control Law:	Living environment item(Enforcement Order the third article, the first term) (Emission standard of the hydrogen ion concentration) The material exhausted in the public water areas except the sea area: 5.8-9.0 The material exhausted in the sea area: 5.0-9.0

16. Other information

[Reference]

- 1) Ministry of Labor, Notification No.79.: Working environment standards (Mar.22, 2020 rev.)
- 2) "Classification of carcinogen and their criteria (seventh edition)": Japan Chemical Industry Ecology-Toxicology & Information Center (2007).
- 3) Chemical substances total information supplement system: National Institute of Technology and Evaluation (NITE).
- 4) JIS Z 7253: 2019 (Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS).

The information contained herein may be revised based on new knowledge.

Among the descriptions of this MSDS, the information such as the content and the physical/chemical properties does not represent a guarantee. Evaluation of hazards is prepared based on our material and data of the product available at the date of publishing, but it is not considered to be exhaustive.
