

Safety Data Sheet

1. Identification of the product and of the company

[Product information]

Product name : JIC ECOTOUGHNESS #420
 General name : Molded Calcium Silicate Product
 Recommended application : Thermal Insulation
 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
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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	No classification
	Oxidizing solids	No classification
	Organic peroxides	No classification
	Corrosive to metals	No classification
	Desensitize explosives	No classification
Health Hazards	Acute toxicity (oral)	Classification not possible
	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	Classification not possible
	Serious eye damage/eye irritation	Classification not possible
	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 2

	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 >

‘Suspected of causing genetic defects’ by inhalation of powdery chips occur from the products in cutting process, manufacturing process, etc.

‘May cause cancer’ by inhalation of powdery chips occur from the products in cutting process, manufacturing process, etc.

‘May cause damage to organs (Respiratory system, Immune system, Kidneys) through prolonged or repeated exposure’ by inhalation of powdery chips occur from our products in cutting process, manufacturing process, etc.

(No dust is generated when only installation and assembly work is performed without cutting.)

< Safety measures >

Obtain special instructions before use (If there is no instructions: Obtain safety data sheet, etc.).

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

Do not inhale dust.

Please wear the appropriate protective gear as indicated in section 8.

Avoid exposure by wear a protective mask and use ventilating device as needed.

Do not eat, drink or smoke when using this product.

Wash your hands thoroughly after handling.

< Emergency measures >

If exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

< Storage >

Avoid exposure of the product to water, and store the product.

< Disposal >

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

3. Composition/Information of ingredients

Substance/Mixture: Mixture

This product is obtained by press molding a mixture of reinforced fiber and calcium silicate crystal which is obtained by hydrothermally reacting calcareous material and siliceous material with water, and by then drying the molded product.

This product contains calcium silicate as a main ingredient and continuous glass fiber as inorganic reinforced fiber.

Chemical name or General name	CAS No.	Official Gazette published docket number	Content (%)
Calcium silicate	1344-95-2	1-194	65~85
Crystalline silica	14808-60-7	1-548	< 3

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

The fiber used in this product is mainly continuous glass fiber, and 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

- Inhalation: Move the victim in the place with fresh air, and make the victim take a rest with the posture which is easy to breathe.
Get medical advice/attention if you feel unwell.
If exposed or concerned: Get medical advice/attention.
- Skin contact: Wash the product adhering to skin away with soap and lukewarm water.
If pain lasts or any symptom develops, get medical advice/treatment.
Get medical advice/attention if you feel unwell.
- Eye contact: Flush the affected eye with clean water until foreign body feeling disappears.
Don't rub the eye.
If any pain remains or something wrong with the eye, get medical advice/attention.
Get medical advice/attention if you feel unwell.
- Ingestion: Rinse mouth out thoroughly with water.
Get medical advice/attention if you feel unwell.

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 this product is broken and the dust fall down on the floor, use the appropriate protective equipment indicated in section 8 and clean it promptly and calmly so that it is not scattered.

<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 >

Sweep up the leaked material, pack it in an empty container or bag, and dispose of it.

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.

Because particulates occur when the product is cut, keep the following precautions.

- Please wear the appropriate protective gear as indicated in section 8.
- If the product is cut by cutting machine, run a local exhaust ventilation or a dust collector during handling.
- If the product has contacted with working cloth, remove it with taking care not to scatter the dust.
- After handling, gargle and wash hands.

Also, when replacing the used product, dust may be generated, so we recommend wetting it during work.

[Precautions on storage]

Store the product in the indoor at the ordinary temperature and the normal relative humidity with strict prohibition of wetting.

8. Exposure Controls/Personal Protection

Administrative levels:

Mass concentration (Respirable dust) $\cdots 3.0/(1.19 \times Q + 1)$ mg/m³
 0.66mg/m³ (As Dusts with crystalline silica content $Q = 2.99\%$)

Exposure Limits:

"Recommendation of Occupational Exposure Limits" by Japan Society for Occupational Health (2025):

Crystalline silica (respirable dust) $\cdots 0.03$ mg/m³

Exposure limits by ACGIH (American Conference of Governmental Industrial Hygienists, 2023):

Crystalline silica $\cdots 0.025$ mg/m³

[Engineering measures]

If handle it in the indoor, install ventilating device having the capacity that make dust concentration less than exposure limit.

[Personal protection equipment]

Dust protective mask

When cutting, etc., wear respiratory protective equipment suitable for the work.

Use either a replaceable dust protective mask or an air-supplied type dust protective respirator, that has been approved in national examination. In any case, pay special attention to the state of the mask adhering to a face. Perform proper maintenance such as inspection and replacement of the filter.

Eye and Face Protection

If necessary, use protective eyewear appropriate for the work, such as spectacle or goggle-type eyewear.

Skin and Body Protection

Wear work clothing appropriate for the work, such as long sleeves, to avoid exposed skin.

Hand Protection

Wear work gloves, such as work gloves, depending on the task.

9. Physical/Chemical Properties

Physical state:	Solid, Board
Color:	White to Gray
Odure:	None.
Boiling Point or Initial Boiling Point and Boiling Range:	Lack of data.
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:	Lack of data.
Kinematic Viscosity:	Not applicable.
Vapor Pressure:	Not applicable.
Bulk density:	About 0.35 to 0.55g/cm ³
Relative Vapour Density (Air = 1):	Not applicable.
Particle Characteristics:	Not applicable.

10. Stability and Reactivity

The product is stable in the terms and conditions of normal storage and handling.

Reactivity:	lack of data.
Chemical stability:	Some of the product dissolves in acid, but detailed data is lacking.
Possibility of hazardous reactions:	lack of data.
Conditions to avoid:	None
Incompatible materials:	lack of data.
Hazardous decomposition products:	lack of data.

11. Toxicological Information

Acute toxicity (oral):	Classification not possible due to lack of data.
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:	If the product contact with skin with the water for a long time, it may cause rough skin, but lack of data. Classification not possible.
Serious eye damage/eye irritation:	Physical irritation occurs but cannot be classified due to lack of data.
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", and the worker may be exposed to the dust when it is cut or processed. So it is classified into Category 2.
Carcinogenicity:	The product contains 0.1% or more of "Crystalline silica, GHS Category 1A", and the worker may be exposed to the dust when it is cut or processed. So it is classified into Category 1A.
Reproductive toxicity:	Classification not possible due to lack of data.
Specific target organ toxicity (single exposure):	Classification not possible due to lack of data.
Specific target organ toxicity (repeated exposure):	The product contains from 1.0% or more to less than 10% of "Crystalline silica, GHS Category 1", and the worker may be exposed to the dust when it is cut or processed. So it is classified into Category 2.
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 (repeated exposure):	May cause pneumoconiosis and etc. through prolonged and considerable inhalation.
Others:	If exposed period is short, in the case of high inhalation concentration, it may cause influence to respiratory system.

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.

13. Disposal Consideration

In the case of dispose the product, be careful the dust is not scattered in neighboring environment.

When this product is disposed of as waste from business activity, it is regarded as industrial waste. Dispose of this product as glass waste and pottery waste by landfill in the least controlled landfill site according to the Waste Management and Public Cleaning Law.

14. Transport Information

Be careful the dust of the product is not scattered by the damage of the package during transportation.

[International Regulations]

Maritime Regulatory Information (IMDG Code)

UN No.: Not applicable.
 Proper shipping name: Not applicable.
 Class or division: Not applicable.
 Packing group: Not applicable.
 Marine pollutants: No.

Aviation Regulatory Information (ICAO TI / IATA DGR)

UN No.: Not applicable.
 Proper shipping name: Not applicable.
 Class or division: Not applicable.
 Packing group: Not applicable.

[Japanese Regulations]

Sea Freight Regulations: Not applicable.
 Air Transport Regulations: Not applicable.
 Land Transport Regulations: Not applicable.

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:	The work at the place for cutting, carving or finishing the mineral (this product). (Dust law, attached table 1-6)
Pneumoconiosis Act:	The work at the place for cutting, carving or finishing the mineral (this product). (Pneumoconiosis act enforcement regulation, attached table 6)

The product contains "Crystalline silica, Notifiable Substance by Japanese Industrial Safety and Health Law", but it is exempted from labeling because the product applicable "Items that do not become a state other than solid during transportation and storage and do not become powdery".

16. Other information

[Reference]

- 1) Ministry of Labor, Notification No.79.: Working environment standards (Mar.22, 2020 rev.)
- 2) "Recommendation of Occupational Exposure Limits": Japan Society for Occupational Health (2025).
- 3) "Classification of carcinogen and their criteria (seventh edition)": Japan Chemical Industry Ecology - Toxicology & Information Center (2007).
- 4) Chemical substances total information supplement system: National Institute of Technology and Evaluation (NITE).
- 5) JIS Z 7253: 2019 (Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)).

6) ACGIH (American Conference of Governmental Industrial Hygienists) Table of exposure limits for chemical and biological substances (2023).

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.
