

Creation date: January 31, 1996  
 Revision date: January 26, 2024

## Safety Data Sheet

### 1. Identification

Chemical name:

Product name : Keical Excel  
 Reference number : NKQ-004  
 Common name : Calcium silicate thermal insulation  
 Relevant identified uses of the substance or mixture and uses advised against  
 : Heat retention material, thermal insulation material  
 Do not use for purposes other than those listed in catalogs, safety data sheets, etc.

Company Information

Company name of supplier : NIPPON KEICAL LIMITED  
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### 2. Hazards identification

GHS Classification: Evaluation as a mixture

Health hazards	Germ cell mutagenicity Carcinogenicity Specific target organ toxicity (single exposure) Specific target organ toxicity (repeated exposure)	Category 2 Category 1A Category 1 Category 1
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\*GHS classification categories not listed : Not applicable/cannot be classified

GHS label elements



Signal word	: Danger
Hazard statement	: May cause cancer Suspicion of possible genetic disease May cause damage to lungs, respiratory system, immune system, and kidneys through prolonged or repeated exposure
Precautionary statements	: Obtain a safety data sheet before use. Do not handle until you have read and understood all safety precautions. Do not breathe in the dust. Wear suitable protective gloves, protective clothing, and protective glasses. Avoid exposure by using respirators and ventilation equipment as necessary. Wash hands thoroughly after handling. Do not eat, drink, or smoke in the handling work area.
First Aid Measures	: Get medical attention/diagnosis if you feel unwell. Seek medical attention/diagnosis if you are exposed or concerned about exposure.
Storage	: Store so that it does not get wet.
Disposal	: Consign the contents/container to a prefecturally licensed waste disposal company.

## 3. Composition / information on ingredients

Substance / Mixture: Mixture

Chemical name or common name	CAS No.	Class reference number in the Gazette List	Content (%)	Industrial Safety and Health Act <sup>1)</sup> Target	Pollutant release and transfer register (PRTR) <sup>2)</sup>	
					Class 1	Class 2
Calcium silicate	1344-95-2	1-194	85 - 98	N/A	N/A	N/A
Long glass fiber <sup>3</sup>	65997-17-3	-	1 - 5	N/A	N/A	N/A
Silicon carbide	409-21-2	1-174	1.0 – 10	336	667	N/A
Crystalline silica	14808-60-7	1-548	0 - 1	165-2	N/A	N/A

1: Main ingredients, substances subject to the above laws 1) and 2), and other raw materials considered to be hazardous are listed in the table.

2: These values are not product standard values.

3: Outside the scope of GHS because it is a molded product.

## 4. First aid measures

In case of inhalation : Move victim to fresh air and keep at rest in a position comfortable for breathing.

Get medical attention/diagnosis if you feel unwell.

Seek medical attention/diagnosis if you are exposed or concerned about exposure.

In case of skin contact: Wash the adhered area with soapy water, then rinse off with slightly hot water.

If there is a change in appearance or pain persists, get immediate medical attention/diagnosis.

Get medical attention/diagnosis if you feel unwell.

In case of eye contact : Rinse with clean water until there is no feeling of foreign matter. Do not rub your eyes.

If eye irritation persists, get medical attention/diagnosis.

Get medical attention/diagnosis if you feel unwell.

In case of swallowing : Rinse out your mouth.

Get medical attention/diagnosis if you feel unwell.

## 5. Fire-fighting measures

No special measures are required as it is non-flammable.

## 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

: Wear appropriate protective equipment and avoid eye and skin contact and inhalation.

See "8. Exposure controls / personal protection"

Environmental precautions

: Do not flush into drains or rivers. Avoid creating dust.

Methods and materials for containment and cleaning up : Clean gently so that dust does not scatter quickly, pack in an empty container/plastic bag or the like and treat as normal industrial waste.

## 7. Handling and Storage

Precautions for safe handling

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

Dust may be generated when cutting, so pay attention to the following points.

- Wear respiratory protection.
- When using electric tools, install a local exhaust ventilation system and a dust collection system.
- If it adheres to your work clothes, etc., remove it while taking care to prevent dust from scattering.
- After handling, gargle and wash your hands thoroughly.

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

Precautions for storage

Do not get it wet, and store it indoors at normal temperature and humidity.

8. Exposure controls / personal protection

Control concentration :  $3.0/(1.19 \times Q + 1)$  mg/m<sup>3</sup>  
 (Q = free silicic acid content %, use the value of crystalline silica in “3. Composition and Ingredients Information”)

Permissible Concentration : Recommended values for permissible concentrations of the Japan Society for Occupational Health (2022):  
 Class 2 dust (mineral inhalable dust with a crystalline silica content of less than 3%)  
 Inhalable dust: 1 mg/m<sup>3</sup> Total dust: 4 mg/m<sup>3</sup>  
 Respirable crystalline silica (free silicic acid): 0.03 mg/m<sup>3</sup>  
 Acceptable concentration by ACGIH (American Conference of Governmental Industrial Hygienists) (2019):  
 Crystalline silica (free silicic acid): 0.025 mg/m<sup>3</sup>

Equipment measures : When handling indoors, install a ventilation system with sufficient capacity to keep the concentration below the control level.

Protective equipment :

- Respiratory protective equipment

When cutting, it is necessary to wear respiratory protective equipment suitable for the work.

Either replaceable or disposable dust masks may be used, but nationally certified products must be used.

When wearing a dust mask, pay particular attention so it fits tightly on the face. For replaceable dust masks, do proper maintenance and management, such as inspection and replacement of filters and confirmation of deterioration of intake/exhaust valves.

- Protective glasses

If necessary, use protective equipment suitable for the work, such as goggles and protective glasses with side seals.

- Gloves and work clothes

Wear suitable clothing such as gloves and long-sleeved work clothes to avoid exposing the skin.

9. Physical and Chemical Properties

Physical State : Solid (board or pipe)

Color : White

Odor : No data

Boiling point or initial boiling point and boiling point range : No data

Flammability : Non-combustible

Lower explosion limit and upper explosion limit/flammability limit : N/A

Flash point : Non-flammable

Auto-ignition temperature : None

Decomposition temperature : No data

pH : No data

Kinematic viscosity : N/A

Vapor pressure : No data

Density : Thickness 25 - 40 mm: 170 kg/m<sup>3</sup> or less, Thickness 50 - 75 mm: 150 kg/m<sup>3</sup> or less

Relative vapor density : N/A

Particle characteristics : No data

10. Stability and Reactivity

Stable under normal storage and handling conditions.

11. Toxicological Information

Acute toxicity (oral) : Classification is not possible due to lack of data.

Acute toxicity (dermal) : Classification is not possible due to lack of data.

Acute toxicity (inhalation: gas) : Not applicable to the category

Acute toxicity (inhalation: steam)	: Not applicable to the category
Acute toxicity (inhalation: dust)	: Classification is not possible due to lack of data.
Acute toxicity (inhalation: mist)	: Not applicable to the category
Skin corrosion / irritation	: Although if you touch it for a long time while it is wet, your skin may develop a rash, classification is not possible due to lack of data.
Serious eye damage/eye irritation	: Although physical irritation is recognized, classification is not possible due to lack of data.
Respiratory sensitization or skin sensitization	: Classification is not possible due to lack of data.
Germ cell mutagenicity	: Contains 1.0% or less of crystalline silica (quartz), classified as Category 2 due to the possibility of exposure to dust caused by cutting, etc.
Carcinogenicity	: Contains 0.1% or more of crystalline silica (quartz) and silicon carbide, classified as Category 1A due to the possibility of exposure to dust caused by cutting, etc. Long glass fibers are classified as Group 3 by IARC (not classified as carcinogenic to humans) and A4 by ACGIH (substances that cannot be classified as carcinogenic to humans).
Reproductive toxicity	: Classification is not possible due to lack of data.
Specific target organ toxicity (single exposure)	: Contains 10% or more of silicon carbide (respiratory organs), and is classified as Category 1 because there is a possibility of dust exposure caused by cutting, etc.
Specific target organ toxicity (repeated exposure)	: Contains 1.0% or more and less than 10% of crystalline silica (respiratory organs, immune system, kidneys) and contains 10% or more silicon carbide (respiratory organs), and is classified as Category 1 due to the possibility of exposure to dust caused by cutting, etc.
Aspiration hazard	: Classification is not possible due to lack of data.

## 12. Ecological information

Ecotoxicity	: No data
Persistence/degradability	: No data
Bioaccumulative potential	: No data
Mobility in soil	: No data
Hazard to the ozone layer	: No data

## 13. Disposal considerations

When discarding, take care not to scatter dust in the surrounding environment.

If this product is disposed of in the course of business activities, it will be classified as industrial waste. When discarding, properly process according to the “Waste Management and Public Cleansing Act”.

## 14. Transport information

Be careful not to scatter dust due to damage to the packaging during transportation.

UN class	: N/A
UN number	: N/A

## 15. Regulatory information

### • Industrial Safety and Health Act

Article 57 : Objects subject to labeling: Crystalline silica, silicon carbide\*

\*Although it contains an object to be labeled, “products that do not turn into other than a solid state or do not become powdery during transportation and storage” are exempted from labeling, and this product falls under this category.

Article 57-2 : Objects subject to notification: Crystalline silica, silicon carbide

Article 57-3 : Applicable objects: Crystalline silica, silicon carbide

### • Ordinance on Industrial Safety and Health

Article 577-2, paragraph 3 : Applicable objects: Crystalline silica (quartz) (carcinogenic substance)  
Silicon carbide (a carcinogenic substance)

- Ordinance on Prevention of Hazards Due to Dust : Work at a place where minerals (this product) are cut, carved, or finished (Item 6 of Attached Table 1 of the Dust Ordinance)
- Pneumoconiosis Law : Work at a place where minerals (this product) are cut, carved, or finished (Regulations for Enforcement of the Pneumoconiosis Law Appended Table 6)
- Poisonous and Deleterious Substances Control Act : N/A
- Pollutant Release and Transfer Register (PRTR) : Class 1 Designated Chemical Substance Silicon Carbide (enforced on April 1, 2023)

## 16. Other information

### References

- 1) Ministry of Labor Notification No. 79: Working Environment Evaluation Standards (Revised September 30, 2015)
- 2) Recommendations for Permissible Concentrations, etc. (FY2022) Japan Society for Occupational Health (May 25, 2022): Journal of Occupational Health Vol. 64, 2022
- 3) Classification of Carcinogenic Substances and Standards (7th edition): Japan Chemical Industry Ecology-Toxicology & Information Center (2007)
- 4) Chemical Risk Information Platform: 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 (2019)

### Handling of Description

This information may be revised based on new knowledge.

Among the description, information such as content, physical/chemical properties, etc. are not guaranteed values. The evaluation of hazards is based on materials and data currently available, but not all materials are covered.