
Material Safety Data Sheet

Arrangement number : NHKZ-ST②-TT-TY

Date : November 06, 2012

The date of Revision : _____

1. Product and corporate information

- 1) Product name : Silicagel Type B white chameleon-C mixture
(A Silicagel desiccating agent for packing)
 - 2) Company name : Nippon Kako-Kizai co.,Ltd
address : Japan 1-20-8 Fuchinobe Sagamihara-City Kanagawa-prefecture
section in charge : R&D center quality·plan group
contact number : TEL 042(752)6006 FAX 042(752)0023
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2. Composition, ingredient information

- 1) The distinction of the single product/mixture : A mixture
(①Silicagel white and ②chameleon-C) The Silicagel is type B
 - 2) chemical name : ①Silicagel white/silicon dioxide
②Chameleon-C/composition Amorufus silica, ammonium iron sulfate(III)
 - 3) An ingredient and content : ①Silicagel white/About 95% ②Chameleon-C/About 5%
 - 4) chemical formula or a constitutional formula : ①Silicagel white / SiO_2
②Chameleon-C / SiO_2 , $\text{NH}_4\text{Fe}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$
 - 5) An official daily gazette public announcement reference number(Japan/Chemical substance examination regulation law) : ①Silicagel white/An existing chemical substance 1-548 ②Chameleon-C/An existing chemical substance 1-548
 - 6) CAS No EINECS No : ①silicon dioxide/CAS No7631-86-9 (CAS No112926-00-8)
EINECS No231-545-4
②composition Amorufus silica/CAS No7631-86-9 (CAS No112926-00-8)
EINECS No231-545-4
ammonium iron sulfate(III)/CAS No7783-20-2
EINECS No233-382-4
 - 7) dangerous noxious ingredient/Japan : silicon dioxide
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3. dangerous noxious abstract

- 1) most important danger hazardous property : There is little possibility of the silicosis, but perform the mine dust revelation prevention when I am possible.
 - 2) Hazardous property : Because it is amorphous substance silica, there is little possibility of the silicosis in comparison with the crystalline silica.
 - 3) environment influence : I consider intellect.
 - 4) the physics and chemical danger : There are no ignition characteristics, combustibleness, explosiveness.
 - 5) The name of the classification (The classification standard is Japan formality) : I do not fall
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4. An emergency step

- 1) When I inhaled it : I move to the place where the air is fresh promptly and wash the mouth and a nasal cavity with water. I take a medical advice if necessary.
 - 2) When I stuck to skin : I wash the part where I came into contact with with water. When skin has stimulation, receive treatment for the doctor if necessary.
 - 3) When I caught sight : I wash eyes with the water which is clean not to be able to be hurt more than 15 minutes so that there is the thing which was sharp in the shape of a glass piece, and the doctor be treated if necessary.
 - 4) When I swallowed it : I gargle with water immediately, and receive treatment for the doctor if necessary.
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5. A step at the time of the fire

- 1) A fire extinguishing method : I do not fall for incombustibles.
- 2) A digestive : I do not fall for incombustibles.

6. A step at the time of the leakage

- 1) Instructions for the human body : I pay attention to the item of the emergency step and use a tool for appropriate protection.
- 2) Instructions for the environment : Pay attention to the handling and the item of the attention in the safekeeping.
- 3) The removal, collection : I collect it to containers from windward so that mine dust is not scattered. When I am possible, I inhale it with a vacuum cleaner. Because I am broken when I touch the water directly and am scattered, wear a tool for appropriate protection.

7. The handling and attention in the safekeeping

- 1) The handling : I wear a tool for appropriate protection and I cannot absorb mine dust and ventilate it for windward or 10 minutes and work. Lecture on precautionary measures for the electrostatic electric discharge. When floors boiled over, I collect it immediately because I am easy to glide.
- 2) Safekeeping: The appropriate safekeeping condition is unopened and avoids direct rays of the sun / rainwater, and keep it coolly in a good cool and dark space of the ventilation. Do not store it up in the place where high temperature high humidity and organic gas are generated for quality maintenance.

8. Prevention of revelation and a protection step

- 1) Management density : I am unestablished
- 2) Permission density : The third Silicagel white/Nihon Sangyo hygiene society (2006 version) class mine dust inhalation-related 2mg/m³ Total mine dust 8mg/ m³
ACGIH American industrial hygiene seminar(2006 version) TLV-TWA is unestablished
(Total Dust)
Composition Amorufus silica/Total absorption quantity Dust:UK EH40:OES 6mg/m³
8 hours TWA Total Respirable:UK40:OES 2.4 mg/m³ 8hour TWA
- 3) An anti-facilities measure : I treat it so that mine dust does not occur. When it is necessary, I perform local exhaust.
- 4) A tool for protection : I pay attention to the item of the emergency step and use a tool for appropriate protection.
- 5) An anti-hygiene measure : I do not do eating and drinking on the occasion of the handling. I handle it, and wash hands well afterward.

9. Of the physics and chemical property

- 1) Shape, a color, a smell : Silicagel white/orbicularity is granular, and white system is unscented
Chameleon-C/is granular and is orange and is unscented
 - 2) The boiling point : Silicagel white /2,230 degrees Celsius
Chameleon-C/<1,000 degrees Celsius
 - 3) A melting point : Silicagel white/1,726 degrees Celsius
I consider chameleon-C/intellect.
 - 4) An ignition point : I do not fall.
 - 5) An ignition point : I do not fall.
 - 6) Explosiveness : I do not fall.
 - 7) I am lytic : It dissolves in a Silicagel white/strong alkalinity material, hydrofluoric acid.
I consider chameleon-C/ intellect.
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10. Stability and reactivity

- 1) Stability : The shape is stability by the normal handling.
- 2) Reactivity : It dissolves in a strong alkalinity material, hydrofluoric acid.

Silicagel white/absorbency is strong.

A change of color advances depending on quantity of chameleon-C/moisture absorption.

(Orange - yellow - is milk-white)

- 3) The condition that you should avoid : Quality deteriorates under the environment that high temperature high humidity produces.
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11. Noxious information

- 1) Acute toxicity : More than Silicagel white/oral rat and mouse LD50 4,500mg/kg
I consider chameleon-C/ intellect
 - 2) Adhesion to the skin : There is a case to show stimulation with the drying.
 - 3) When I caught sight : I learn a feeling of alien substance, and there is a case to show stimulation.
 - 4) When I inhaled it : I consider intellect
 - 5) When I swallowed it : I consider intellect
 - 6) Other hazardous property : I consider intellect
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12. Environmental influence information

- 1) The habits toxicity : I consider intellect
 - 2) It is mobile : I consider intellect
 - 3) Residual property : I consider intellect
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13. Attention in the disposal

- 1) When I dispose, I handle it in accordance with the laws such as "disposal of waste and the law about the cleaning" concerned.
 - 2) I entrust a waste disposal treatment supplier having the qualification.
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14. Attention in the transportation

- 1) Pertinence laws and ordinances : I do not fall.
 - 2) The handling : Of a fall/a fall/the damage there does not seem to be it, and take a hedge of water the wet/the collapse of cargo surely.
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15. Application laws and ordinances

- 1) Firefighting method/Japan : I do not fall.
 - 2) The Occupational Safety and Health Act/Japan : The Occupational Safety and Health Act : Two (the harmful thing which you should notify of names) the ninth separate table government ordinance number 311 silica of two (the grants of the document) Article 18s of Article 57
 - 3) Deleterious Substance Control Law/Japan : I do not fall.
 - 4) Chemical substance management promotion law/Japan : I do not fall.
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16. Revision information

There is no revision.

1. This product did not fall under a classification standard to need MSDS, but made it as reporting voluntarily. Information offered from a maker is based to extend and, about an ingredient constituting the product concerned, makes it.

2. I make the mention content based on the information that I obtained by the present, but the evaluation about danger/the hazardous property is not the thing which I always guarantee not perfection because it is not the thing which investigated all documents/documents. In addition, a change occurs in the contents by announcement of new knowledge and a correction of the conventional opinion.

The instructions are things for the normal handling, and please handle confirmation by newly appropriate safety measures and the examination after enforcement when it is used in an important use.