

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY NAME : HAKKO CORPORATION
ADDRESS : 4-5, Shiokusa 2-chome, Naniwa-ku, Osaka 556-0024
 Japan
SECTION IN CHARGE : Research & Development Center

EMERGENCY TELEPHONE NUMBER : 81-6-6561-3225
PERSON IN CHARGE : Sales Division
PRODUCT NAME : Prefilter for Hakko 421
MODEL : No. A1428

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Not applicable

GHS LABEL ELEMENTS

PICTOGRAM OR SYMBOL : None
 SIGNAL WORD : None
 HAZARD INFORMATION : Not particularly hazardous

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single ingredient product or mixture : Single-ingredient product made by molding glass wool with adhesive

Chemical Name	Glass wool (*1)	Phenol resin adhesive
Ingredient and content	82 - 92%	8 - 18%
Chemical and constitutional formulae	Amorphous mesh structure	—
Law concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances	N/A	—
CAS No.	65997-17-3	—
*1: Glass wool means artificial mineral fibers that are manufactured by melting a mixture of silica sand, feldspar, limestone, dolomite, soda ash, and the like and/or recycled cullet glass as raw materials into fibers.		

4. FIRST-AID MEASURES

- IF IN EYES** : Do not rub the eyes. Rinse with clean water until no foreign-body sensation is felt. If pain is felt, receive medical attention.
- IF ON SKIN** : Clean the portion exposed to the product by using soap water and then rinse it with fresh water or lukewarm water. If pain or any other abnormality is felt, immediately receive medical attention.

5. FIRE-FIGHTING MEASURES

- EXTINGUISHING PROCEDURES** : Take the normal extinguishing procedures.
- EXTINGUISHING MEDIA** : Water, carbon dioxide gas, foam, dry chemicals, or powder is effective. However, the suitable extinguishing media must be chosen considering the surrounding circumstances (cause of firing).
- OTHERS** : Glass wool itself is incombustible. However, adhesive applied to wool surface is generally combustible.

6. ACCIDENTAL RELEASE MEASURES

- PRECAUTIONS FOR HUMAN BODY** : Wear a protective mask, protective gloves, and protective goggles as needed.
- PRECAUTIONS FOR ENVIRONMENT** : N/A
- ELIMINATION PROCEDURES** : If the product is spilled over the floor or the like, immediately and quietly clean it without scattering its dust. Fill an empty container, bag, or the like with the collected product and then dispose of the product as general industrial waste.

7. HANDLING AND STOCK

- HANDLING** : To cut the product, use a cutter knife or the like while taking care that no dust is scattered. Immediately put the cut chips in a bag or take similar means to ensure that no dust is scattered. Wear long-sleeved work clothes and work gloves. Use a dust mask and protective goggles as needed. After handling, gargle and wash the hands.

STOCK : Exposure to water, which is not a safety problem, is strictly inhibited because of a quality reason.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL CONCENTRATION : Glass wool is one of the minerals. For work subject to the dust regulation, the inhaled dust control concentration is 2.9 mg/m³ because free silicate is 0%:
 $M = 2.9 / (0.22Q + 1)$ (where M is control concentration and Q percentage content of free silicate in dust)

ALLOWABLE CONCENTRATION : Not designated by the Japan Society for Occupational Health
 1 f/cm³ designated by ACGIH (1999)
 (fiber of 5 μm minimum in length, less than 3 μm in diameter, and aspect ratio (length/diameter) of 3 minimum)

FACILITIES CONTROL MEASURES : It is recommended that local exhaust equipment be installed as well as facial cleaning, body cleaning, and gargling equipment, a dressing room, laundry equipment, and others.

PROTECTIVE GEAR

Dust Respirator : If the dust concentration in the workplace may exceed the above specified level, use a dust respirator.

Eye Shield : Use safety goggles or protective glasses with side sealing, as needed.

Protective gloves and clothes : Use gloves and clothes suitable for the work, such as long-sleeved loose clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Colored collective glass fibers
ODOR : None
pH : N/A
MELTING POINT : Approx. 680°C (softening point)
DENSITY (at 25°C) : Approx. 2.5
SOLUBILITY : Hardly soluble in water

10. STABILITY AND REACTIVITY

The product is chemically stable without reaction; it is soluble in a strong alkaline or acid solution.

11. TOXICOLOGICAL INFORMATION

- ACUTE EFFECT** : • If the product gets in the eyes, physical irritation occurs.
• If the product adheres to the skin, an itching sensation or an erythema may occur, but it will be transient without causing any chronic disorder.
- CHRONIC EFFECT** : Since inhalable fibers are contained in the generated dust, long-term inhalation in a large quantity may cause respiratory disorder (pneumoconiosis).
However, handling of glass wool has involved no reports on any disorder attributable to glass wool.
- CARCINOGENICITY** : Glass wool as well as rock wool is classified into group 2B by the International Agency for Research on Cancer (IARC). In the EC, glass wool is similarly classified into category 3 (with potential carcinogenicity) like rock wool. However, this classification is based on an experimental result obtained by directly injecting an unpractically large quantity of fibers into the lungs and bodies of animals, which was a procedure different from normal respiratory inhalation. Also classified into the IARC's group 2B are coffee (caffeine) and saccharine, artificial sweetener. As results from long-term studies, however, they were subsequently changed over to group B (not classifiable for human carcinogenicity). A worldwide epidemiological study on humans in a period of more than 40 years shows no abnormalities or findings attributable to glass wool.

12. ECOLOGICAL INFORMATION

There are no study reports on ecological effects of this product.

13. DISPOSAL CONSIDERATIONS

To dispose of the product, ensure that its dust does not fly in the surroundings. Waste from glass wool products is categorized into "glass waste and pottery waste" under with the Waste Disposal and Public Cleaning Law and may be handled as normal industrial waste accordingly.

14. TRANSPORTATION INFORMATION

Take care that no dust is scattered because of breakage of the package or any other reason during transportation, although such scattering is not dangerous.

15. REGULATORY INFORMATION

- Glass wool is categorized into "mineral" under the Pneumoconiosis Law and the Dust Pollution Control Law, which are applicable to the following work:
 - i) Work involved in cutting, graving, or finishing mineral (this product) (Appendix 1-6 of the Dust Pollution Control Law)
 - ii) Work involved in a site where mineral (this product) is crushed, pulverized, or sieved (Appendix 1-8 of the Dust Pollution Control Law)

The notification No. 1 of January 1, 1993 from the Ministry of Labor provided "Guidelines for Occupational Safety and Health on Glass Fibers and Rock Wool." In accordance with the guidelines, "Manual for Occupational Safety and Health on Glass Wool" was prepared requiring compliance.

- The product is a material subject to Article 57-2 "Issue of document" of the Industrial Safety and Health Law.
- "Boron and its compounds" are included in government ordinance No. 304 for class 1 designated chemical substances in Appendix 1 of the enforcement ordinance of the Pollutant Release and Transfer Register Law (PRTR Law). Glass wool contains boron at 1% or more, but is not subject to this law because of the following reasons:
 - i) The product is a glass-like amorphous solid product that is manufactured by heating and melting raw materials such as SiO₂, Al₂O₃, B₂O₃, and CaO.
 - ii) The product does not become any state other than solid by melting or any other treatment in the handling process and is used in a state of maintaining its fiber shape.

Accordingly, the product is determined as not included in the products designated by Article 5-1 of the PRTR Law.

16. OTHER INFORMATION

Reference

Artificial Mineral Fiber: Japan Industrial Safety and Health Association, Environmental Protection: Criteria 77, 1989

Safety in Using Mineral Fibers and Man-made Fibers: ILO Occupational Safety and Health Series No. 64, 1991 by Glass Fiber Association and others

Effects of Glass Wool on Human Body: Glass Fiber Association; revised in 1989

Guidelines for Occupational Health and Safety on Glass Fibers and Rock Wool: Notification No. 1 of January 1, 1993 from the Ministry of Labor

Manual for Measurement of Number and Concentration of Man-made Mineral Fibers(MMMF): Glass Fiber Association, Ceramic Fiber Industrial Association, Glass Wool Industrial Association (1993)

Explanation of Guidelines for Occupational Safety and Health on Glass Fibers and Rock Wool: Glass Fiber Association and Rock Wool Industrial Association

Manual for Guidelines of Occupational Health and Safety on Glass Fibers: Glass Fiber Association (1993)

Manual for Measurement of Man-made Mineral Fiber Concentration on Work Site or the Like: Glass Fiber Association and Rock Wool Industrial Association (1995)

Asbestos Substitution Fibers and Their Effects on Humans: Japan Industrial Safety and Health Association (1996)

Questions and Answers on Glass Wool: Glass Fiber Association (1998)

Code of practice on safety in the use of synthetic vitreous fiber insulation wools (glass wool, rock wool, slag wool): ILO (2000)

Established on March 6, 2006

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