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Safety Data Sheet

Registry code: A-19E

0. Introduction

Continuous filament glass fiber products are articles under EU regulation (REACH (EC) No.1907/2006 & CLP (EC) No.1272/2008), US regulation (TSCA) and Japanese Regulations (Industrial Safety and Health Law, Pollutant Release and Transfer Register) and therefore, no SDS is legally required. Continuous filament glass fiber products are outside the scope of the GHS system. Glass Fiber Association of Japan (GFA) decides to continue to provide our customers SDS for assuring the safe handling and use of continuous filament glass fiber products.

1. Identification

Product name: Continuous Filament Glass Fiber product
Product code: Chopped Strands, Roving, Yarn, Milled fiber
Contact Manufacturer: Nippon Electric Glass Co., Ltd.
Address: 906, Imacho, Higashiomi, Shiga 521-1295, Japan
Phone: +81-748-42-2255
Fax: +81-748-42-6995

2. Hazards identification

Continuous filament glass fiber products are articles and no SDS is legally required but be careful of the following points when handling it.

1) Contact with fibers may cause temporary irritation or itch on skin, eyes, throat or nose.
2) Most of the sizing agents, binders or surface treating agents coated on fibers are flammable.
3) Continuous glass fiber products generally do not applicable under the category of respirable fibers (WHO fibers).

3. Composition / Information on Ingredients

Product description: Article

Chemical name	Common Name	Content Wt.%	CAS No.
Soda zirconia silicate glass	AR-Glass	>=97	65997-17-3
N/A	Surface treating agent	<3	-

4. First-aid measures

Inhalation:
Gargle with clean water about ten times. Also, blow your nose gently. Seek medical attention If you feel some itching or irritation in the nose and/or throat.

Skin Contact:
Do not rub or scratch the affected areas. Rubbing or scratching may cause harsh itching or irritation. Rinse with running water. Seek medical attention If you feel some itching or irritation on your skin.

Eye Contact:
Do not rub your eyes to prevent irritation and injury to cornea. Flush the eye with clean water for at least 15 minutes. Remove Contact lenses immediately, if present and easy to do. Continue flushing. Seek medical attention if irritation persists.

Ingestion:
Wash mouth with water thoroughly. Seek medical attention if necessary.

5. Fire-fighting measures

Suitable extinguishing media: Any of the extinguishing medias, including water, carbon dioxide gas, foam, dry chemicals and powder are effective. Select an extinguishing media depending on circumstances (source of fire, etc.).

Specific hazards arising from the chemical: Glass fiber itself is not combustible. But the sizing agents, binders or surface treating agents on glass fiber are generally combustible and give off little hazardous by-products other than carbon monoxide, carbon dioxide and water on combustion.

Specific protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: If necessary, wear a safety mask, safety gloves or safety goggles.

Environmental precautions: No special environmental precautions required.
Methods and material for containment and cleaning up: If spilled on the floor, clean quietly so that dust particles will not be dispersed and put into a container or bag. For disposal, treat it same as general industrial waste.

7. Handling and storage

Precautions for safe handling: Avoid inhalation or contact with the eye or skin. If necessary, use gloves, safety glasses (preferably goggles) and dust mask (approved by the government authorities: replaceable/one-way). Glass fiber is readily charged with static electricity. Static electricity can damage electronic components and cause explosions and fires. Take measures to prevent the build up of electrostatic charge.
Condition for safe storage, including any incompatibilities: Not applicable

8. Exposure controls / personal protection

Control parameters
Occupational Exposure Limits:
- "Regulation on Prevention of Hazards Due to Dust" of Japan; 3.0mg/m^3
- Japan Society for Occupational Health;
  2mg/m^3 (respirable dust: recommendation), 8mg/m^3 (Total dust: recommendation)
- OSHA; 15mg/m^3 TWA (total dust), 5mg/m^3 TWA (respirable dust)
- ACGIH：Continuous filament fibers 1fiber/cm3 （respirable fiber）
  Continuous filament fibers 5mg/m3 （inhalable fraction）

Appropriate engineering controls
Equipment measures: Install localized ventilation units in workplaces where dusts are generated by cutting, grinding and so on, and powder products such as milled fibers are handled. If ventilation units can't be installed for some reasons, be sure to wear a dust mask (approved by the government) during work. It is also preferable to provide facilities for washing the face and the body, gargling, changing and washing clothes.
Individual protection measures, such as personal protective equipment(PPE): Use the following protective gear as necessary in view of the conditions in the workplace environment.
- Eye/face protection: Safety glasses with side-shields
- Skin protection: Loose-fitting top garment with long sleeves and collar (tightened cuffs) and long pants (tightened at the ankles).
- Respiratory protection: Dust mask (approved by the government authorities: replaceable / one-way)
- Thermal hazards: Not applicable
- Hand protection: Gloves such as leather which don't allow glass fiber to pierce

9. Physical and chemical properties and safety characteristics

Physical state: Fibrous solid
Color: White
Odor: none or slight odor
Melting point/freezing point (°C): (Softening point) approx. 820
Boiling point (°C): No data available
Flammability: Glass is not a flammable. But, most of the sizing agents, binder or surface treating agents coated on fibers are flammable.
Lower and upper explosion limit: Not applicable
Flash point: Not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: No data available
pH: No data available
Kinematic viscosity: Not applicable
Solubility: No data available
Partition coefficient n-octanol/water (log value): No data available
Vapor pressure: No data available
Density and/or relative density (25°C): Approx. 2.8g/cc (bare glass)
Relative vapor density: Not applicable
Particle characteristics: No data available

10. Stability and reactivity

Reactivity: No data available

Chemical stability: Stable under normal condition
Possibility of hazardous reaction: Hazardous reaction does not occur
Condition to avoid: No data available
Incompatible materials: No data available
Hazardous decomposition products: No data available

11. Toxicological information

Acute toxicity: No data available
Skin corrosion/irritation: Severe pruritus and irritation are incurred from exposure to mechanical stimulus while on the job. These mechanical stimuli are momentary and are related to fibers in excess of 5 μm in diameter. Furthermore, dermatitis are incurred from exposure to mechanical stimulus while on the job. No abnormalities have been confirmed with a patch test for human skin using 4-13 μm diameter continuous filament glass fibers (with no surface treated).
Serious eye damage /irritation: Mechanical stimuli from exposure while on the job have been confirmed. This mechanical stimulus is momentary, and is related to fibers in excess of 5 μm in diameter. (ACGIH (2001)), ATSDR (2004)).
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity: The International Agency for Research on Cancer (IARC) classes glass fiber into category 3 (Not classification exists with regard to its carcinogenicity in humans.).
Reproductive toxicity: No data available
Specified target organ·general toxicity – single exposure: Temporary respiratory tract irritation has been confirmed while exposed on the job, but disappears when exposure is removed.
Specified target organ·general toxicity – repetitive exposure: There is no possibility of inhalation of continuous filament glass fibers. It has also been reported that no significant adverse affects with regard to one's health have been confirmed through epidemiological studies conducted with laborers.
Aspirtion hazard: No data available

12. Ecological information

Toxicity: No data available
Persistence and degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available
Other adverse effects:
Harmfulness to ozone layer : No data.

13. Disposal considerations

Disposal methods: For disposal, handle in the same manner as general industrial wastes. Also follow all other concerned laws, bylaws and legal regulations.

14. Transport information

UN number: Not regulated
Un Proper Shipping Name: Not classified
Transport hazard Class(es): Not classified
Packing group, if applicable: Not classified
Environmental hazard:
ADR (Agreement Concerning the International Carriage of Dangerous Goods by Road): Not applicable
RID (Regulations Concerning the International Carriage of Dangerous Goods by Rail): Not applicable
IMDG (International Maritime Dangerous Goods): Not applicable
IATA (IATA Dangerous Goods Regulations): Not applicable
Special precautions for user: Note the following when transporting
Avoid direct sunlight on the products
Make sure that the products are loaded without damage, corrosion, or leaks, and that the products are prevented from falling or collapse.
Do not stack heavy items on the products

15. Regulatory information

Because continuous glass fiber products are articles, they are not applicable to registration under REACH (Registration, Evaluation, Authorization and Restriction of Chemicals in EU). Continuous filament glass fiber is not classified as hazardous according to Regulation (EC) No.1272/2008.

Glass fiber is considered an article and is exempted from inventory requirements of TSCA, REACH, EINECS, DSL, AICS, KECL and so on.

Existing registration of chemical substances in the major countries

- European Inventory of Existing Commercial Chemical Substances
  EINECS No. 266-046-0
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Inventory of Toxic Substances Control Act (TSCA) in the US
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Domestic Substance List (DSL) in Canada
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Current chemical substances registration in China
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Korean Existing Chemicals Inventory(KECI)
  CAS No. 65997-17-3
  KECI No. KE-17630
  Registered names: Glass, oxide
- Australian Inventory of Industrial Chemicals (AIIC)
  CAS No. 65997-17-3
  Registered names: Glass, oxide
- New Zealand Inventory of Chemical Substances(NZIoC)
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Philippines Inventory of Chemicals and Chemical Substances(PICCS)
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Chemical Substance Nomination & Notification in Taiwan
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- Thailand Existing Chemicals Inventory
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals
- National Chemical Inventory in Vietnam(NCI)
  CAS No. 65997-17-3
  Registered names: Glass, oxide, chemicals

National Chemical Inventory in Russia
CAS No. 65997-17-3
Registered names: Glass, oxide, chemicals

16. Other information

1) Literature references
   - Recommendation on maximum allowable concentration (Journal of Japan Society for Occupational Health)
   - Monographs on the Evaluation of the Carcinogenic Risks to Humans, Vol. 81 (2002), “Man-made Vitreous Fibers” International Agency for Research on Cancer (IARC).
   - ACGIH (TLV s and BELs Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices：2023)
   - ACGIH (2001) SYNTHETIC VITREOUS FIBERS
   - ATSDR (2004) TOXICOLOGICAL PROFILE FOR SYNTHETIC VITREOUS FIBERS
   - "Industrial Continuous Glass Fiber Patch Tests for Human Skin" (Test Report Commissioned by the Japan Hair Science Association Incorporated (Hair Science Research Bulletin No. 22044(3), February 7, 2011))
2) Glass is not a chemical substance registered under the following Japanese laws.
   - Japanese Chemical Substances Control Law
   - Pollutant Release and Transfer Register
3) We have the following domestic laws and bylaws related to occupational safety and health.
   “Regulation on Prevention of Hazards Due to Dust” lay down in the provisions of the Enforcement Ordinance of the “Industrial Safety and Health Law”.

4) The information in this SDS has been prepared on the basis of the materials, information and data that are currently available and may be updated or corrected based on new findings. Moreover, cautions apply to normal handling. In the event of special handling take safety measures appropriate for the applications and the methods. The information in this SDS is solely intended for providing information and does not constitute any guaranteed values.