

MATERIAL SAFETY DATA SHEET1. Chemical product & company identification

- Chemical product name :20/3-931 carbon-basis conductive fiber
- Name of manufacturer/supplier:Kanebo Gohsen Ltd.,
- Name of section :Filament Technology Dept.
- Address :Umeda 1-2-2 , Kita-ku, Osaka 530-0001, Japan
- Phone number :++81 (0)6-348-5274
- Fax number :++81 (0)6-348-5383

2. Composition/information on ingredients

| Substance/mixture | Mixture | |
|----------------------------------|-----------------------|----------------|
| Chemical name | Polycaprolactam amide | Carbon black |
| Synonyms | Nylon 6 | None |
| CAS registry number | 25038-54-4 | 1333-86-4 |
| Ingredients and composition(wt%) | More than 96% | More than 3% |
| Chemical formula | $[-OC(CH_2)_5-NH-]_n$ | C |
| UN class | No information | No information |
| UN No. | No information | No information |

3. Hazards identification

- Hazard class :No hazard classification.
- Physical and chemical hazards :None.
- Adverse human health effects :No information
- Environmental effects :No information

4. First-aid measures

- Eye contact :Gently rinse with clean water. Consult physician if abnormality
wises.
- Skin contact :No harmful at normal temperature.
- Inhalation :Non toxic.
- Ingestion :Non toxic.

5. Fire-fighting measures

- Extinguishing media :Water spray, foam, dry chemical powder and carbon dioxide.
- Specific hazards with regard to fire-fighting measures :None (none toxic gas)

6. Accidental release measures

:Sweep up and remove.

7. Handling & storage

- Handling :Protect against physical damage and avoid rough handling or dropping
- Storage :Store undercover at normal temperature and humidity, keep dry.

8. Exposure control/personal protection

- Control parameters :TLV Not applicable.
- Engineering measures :Non required.
- Personal protective equipment :Non required.

9. Physical and chemical properties

- Appearance, physical state, form, color :Black colored filament
- Odor :None
- Density :Not available
- Boiling point :None.
- Melting point :Not available.
- Vapor pressure and its density :None(Solid state)
- Solubility in water :Insoluble (except in strong alkali).
- Solubility in organic solvents :Insoluble in most solvent.

10. Physical hazards (stability & reactivity)

- Flash point :No information
- Auto ignition temperature :No information
- Upper and lower explosion limit :No information
- Flammability :Flammable.
- Spontaneous combustibility :None.
- Reactivity with water :None.
- Oxidization :None
- Self Reactivity :None
- Stability & Reactivity :This product is considered a stable material

under normal and anticipated storage and handling condition.

11. Toxicological information

- Corrosive and irritant properties :None
- Allergenic and sensitizing effects :None
- Acute toxicity :Not available.
- Sub-chronic toxicity :Not available.
- Chronic toxicity :None
- Carcinogenic effects :Not available.
- Mutagenic effects :Not available.
- Effective on the reproductive system :No relevant information found.
- Teratogenic effects :Not available.

12. Ecological information

- Biodegradability :Not biodegradable.
- Bio accumulation :Not available
- Fish toxicity :Not available.

13. Disposal consideration

- As for other organic polymers..

14. Transport information

- Before shipment confirm packaging is clean and undamaged. Precautions against impact, overturning, dropping or bursting. Protect from water damage and loadshiting during transport.

15. Regulatory information

- Regulatory information with regard to this substance in your country or in your region should be examined by own responsibility. Confirmation of and compliance with local regulatory requirements in the country or region of use is the responsibility of the purchaser or user.

16. Other information

- To the best of our knowledge, the information contained here in is accurate. However, Kanebo Gohsen assumes no liability whatsoever for the accuracy or completeness of the information contained herein.

H. Hinago

Hideki Hinago

Manager

Filament Technology Department