

MATERIAL SAFETY DATA SHEET

Date April 1, 2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **SWP/Fybre1 (polyethylene)**

This MSDS covers our polyolefin synthetic pulp products, SWP and Fybre1.

Living & Energy Materials Division
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS No.	EC No.
Polyethylene	30-70	9002-88-4	-
Polyvinyl Alcohol	=3 (dry wt.)	9002-89-5	-
Water	30-70	7732-18-5	231-791-2

Classification according to EC regulations

This product is not classified according to the EU regulations.

* Occupational exposure limits are, if available, listed in Section 8.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Wet, white sheets.
No specific hazard identified.

POTENTIAL HEALTH EFFECTS

Route(s) of Entry: Eye contact, skin contact, inhalation, ingestion

INHALATION: Dry, fine fibers may cause mechanical irritation to the respiratory tract.

INGESTION: Polymers are generally biologically inert.

SKIN CONTACT: Fibers may cause mechanical irritation.

EYE CONTACT: Fibers may cause mechanical irritation or scratch the surface of the eye.

CARCINOGENICITY:

NTP: Not listed.
IARC: 3 (Not classifiable as to carcinogenicity in humans) [polyethylene].
OSHA: Not regulated.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

No information found.

4. FIRST AID MEASURES

INHALATION:

If exposed to excessive levels of fumes, remove to fresh air. Get medical attention if cough or other symptoms develop.

EYE CONTACT:

Immediately flush eyes with plenty of water. Get medical attention if irritation persists. Part eyelids with fingers to assure complete flushing. Check for and remove contact lenses if easily possible.

SKIN CONTACT:

Flush skin with large amounts of water. Get medical attention if symptoms develop.

INGESTION:

The material is believed to present very little hazard, if swallowed.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES: See Section 9.

EXTINGUISHING MEDIA: water jet, water fog, foam, dry chemical, CO₂, dry sand

EXTINGUISHING MEDIA WHICH MUST NOT BE USED: Not available.

GENERAL HAZARD:

This material does not ignite easily, but will burn when dry.

FIRE FIGHTING INSTRUCTIONS

Keep unnecessary and unprotected personnel away. Remove containers to safe place if possible. Keep containers and surroundings cool by spraying with water. Fight fire from an upwind position.

FIRE FIGHTING EQUIPMENT:

Respiratory and eye protection required for fire-fighting personnel. Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS: Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Keep unnecessary and unprotected personnel away.

ENVIRONMENTAL PRECAUTIONS:

Do not let this chemical enter the environment.

CLEAN-UP METHODS:

Vacuum or sweep up material and place in a disposal container.

7. HANDLING AND STORAGE

HANDLING:

Technical Measures:

Use in well-ventilated area. Avoid contact with eyes, skin, and clothing. Provide hand and eye wash station near work area. Wash thoroughly after handling.

Precautions:

Avoid raising dust or aerosol.

Safe Handling Advise:

Follow good industrial hygiene practices for ventilation and clean-up.

STORAGE:

Storage Conditions:

Keep away from heat, flame, and all sources of ignition. Store indoors. Avoid overstacking to prevent collapse or breakage of the package.

Packaging Material:

Polyolefin containers, polyethylene wrappings.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general ventilation. Provide safety shower and eye wash station near work area.

EXPOSURE LIMITS:

Particulates (Not otherwise regulated)
OSHA-PEL 15mg/m³, 8 Hr. TWA, total dust
5mg/m³, 8 Hr. TWA, respirable dust
Particulates (Not otherwise specified)
ACGIH-TLV 10mg/m³, 8 Hr. TWA, inhalable
3mg/m³, 8 Hr. TWA, respirable

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection: Dust respirator.
Hand protection: Protective gloves.
Eye protection: Safety glasses, goggles.
Protective clothing: Safety helmet, protective clothing, safety shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Wet, white sheet.
ODOR : None.
pH : Not applicable.
MELTING POINT : 125-135 °C ¹⁾
FLASH POINT : >200 °C ¹⁾
AUTOIGNITION TEMPERATURE: Not available.
EXPLODABILITY : Not available.
SPECIFIC GRAVITY : 0.93-0.96 ¹⁾
SOLUBILITY IN WATER : Insoluble. ¹⁾

10. STABILITY AND REACTIVITY

STABILITY:
Stable at room temperature for normal storage and handling.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:
Heat, strong acids, strong alkalis, strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon oxides, organic agents.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Oral rat LD >3 g/kg ²⁾
Oral mouse LDLo 5 g/kg ²⁾

LOCAL EFFECTS: Not available.

CARCINOGENICITY:
According to the hypothesis of Stanton-Pott, it is reported that there is a possibility of causing cancer when ultra-fine fibers below 0.25 μm in diameter and above 8 μm in length are absorbed into the lung. ³⁾ When we observed this product with the electron microscope, the diameter of the fibers was above 1 μm, and the average length was over 100 μm; therefore the values were higher than those provided by this hypothesis. However, in manufacturing process, product may be reduced into ultra-fine fibers that come within the range presented in the Stanton-Pott hypothesis.

12. ECOLOGICAL INFORMATION

No data are available.

13. DISPOSAL CONSIDERATIONS

WASTE FROM RESIDUES:
Whatever cannot be saved for recovery may be burned in an approved incinerator or disposed in an approved waste facility. Ensure compliance with local, state, federal and national regulations.

CONTAMINATED PACKAGING:
Empty the container completely before disposal.

14. TRANSPORT INFORMATION

UN Class: Not regulated.
UN Number: None.

15. REGULATORY INFORMATION

UNITED STATES

OSHA STATUS:

This product is not hazardous under the criteria of Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS:

All components of this product are listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY: None

SARA Title III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARDOUS CATEGORIES:

Non-hazardous under section 311/312.

SECTION 313 TOXIC CHEMICALS: None

CALIFORNIA PROPOSITION 65:

This product contains no chemicals known to the state of California to cause cancer and reproductive toxicity.

EUROPEAN UNION:

EU STATUS:

All components of this product are listed on EINECS or exempt from EINECS registration.

Labeling according to EC directive:

This product is not classified according to the EU regulations.

16. OTHER INFORMATION

SOURCES OF DATA:

- 1) Mitsui Chemicals, Inc.
- 2) RTECS: Registry of Toxic Effects of Chemical Substances (NIOSH, 2001)
- 3) Mearl F. Stanton et al. Relation of particle dimension to carcinogenicity in amphibole asbestoses and other fibrous minerals. JNCI, Vol. 67, No. 5, November 1981

This MSDS was prepared in compliance with EU Directive 91/155/EEC as amended by 2001/58/EC and USA OSHA Hazard Communication Standard (29 CFR 1910.1200).

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.