



MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard
Z400.1-2004

Revision Date: 13/October/2011
Product Code: NGBL

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Aerogel Thermal Wrap

Synonyms: None

This SDS is valid for the following grades: TW350, TW600, TW800, TW1200, LB800

Use of the Substance/Preparation: Insulating material, Industrial Products, Various

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2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW - CAUTION:

White flexible blanket. Do not expose to temperatures above 300°C. Heating above 300°C leads to decomposition of Aerogel surface treatment. Decomposition vapor should be ventilated.

Polyesters and nylon can burn if exposed to flame, releasing toxic and/or flammable fumes and vapors. Fiber core melts at about 256°C and the sheaths melt at various temperatures from 110°C to 150°C (copolyolefin bicomponent fiber).

Principle Routes of Exposure: Skin contact

POTENTIAL HEALTH EFFECTS

Eye Contact: Dust may cause mechanical irritation.

Skin Contact: Dust may cause mechanical irritation. Repeated exposure may cause skin dryness or cracking.

Inhalation: Dust may be irritating to respiratory tract. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. See also Section 8.

Ingestion: Health injuries are not known or expected under normal use. Low hazard for usual industrial or commercial handling.

Carcinogenic Effects: Does not contain any substances listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union). See also Section 11.

Target Organ Effects: Lungs, Skin

Medical Conditions Aggravated by Exposure: Asthma, Respiratory disorder, Skin disorders

Potential Environmental Effects: None known. No special environmental precautions required.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS/ELINCS Number	Weight %	EU Classification
Silica gel, trimethylsilylated	126877-03-0	Not assigned	45-77	None
Copolyolefin bicomponent fiber composed of < 81% polyethylene terephthalate core (CAS# 25038-59-9) and < 51% proprietary copolyolefin sheath	25038-59-9	Not assigned	17-47	None
Nylon	63428-83-1	Not assigned	0-6	None

4. FIRST AID MEASURES

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing and shoes. Seek medical attention if symptoms develop.

Eye Contact: Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if redness, swelling, itching, burning or visual disturbances occur.

Inhalation: If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.

Ingestion: Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person.

Notes to Physician: Treat symptomatically.

5. FIRE AND IGNITION INFORMATION

Autoignition Temperature: 490°C

Method: ASTM D-1929

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product is insoluble and floats on water.

Special Protective Equipment for Firefighters: Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus.

Specific Hazards:

Do not expose to temperatures above 300°C. Heating above 300°C leads to decomposition of Aerogel surface treatment. Decomposition vapor should be ventilated.

Polyesters and nylon can burn if exposed to flame, releasing toxic and/or flammable fumes and vapors. Fiber core melts at about 256°C and the sheaths melt at various temperatures from 110°C to 150°C (copolyolefin bicomponent fiber).

Hazardous Decomposition and/or Combustion Products:

Organic products of decomposition, May emit toxic fumes during fire conditions.

6. ACCIDENTAL RELEASE MEASURES**Personal Precautions:**

Avoid dust formation. Ensure adequate ventilation. Use personal protective equipment. See also Section 8.

Methods for Cleaning Up:

Clean up promptly by vacuum. Use a suitable vacuum cleaner. Pick up and transfer to properly labelled containers. Avoid dust formation. See Section 13.

Environmental Precautions:

Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE**Handling:**

Avoid dust formation. Do not breathe dust and/or fibers. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Avoid contact with skin and eyes.

Storage:

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Information given is based on data obtained from this substance or from similar substances.

EXPOSURE LIMITS

There are no exposure limits identified for this product. Exposure limits for silica are stated below. In its facilities globally, Cabot Corporation manages to the Germany TRGS 900 occupational exposure limit of 4 mg/m³, TWA, Inhalable fraction.

Amorphous Silica, The regulatory exposure limits are found under the general silica, CAS RN 7631-86-9:	Australia:	2 mg/m ³ , TWA, Respirable
	Austria MAK:	4 mg/m ³ , TWA, Inhalable fraction
	Finland:	5 mg/m ³
	Germany TRGS 900:	4 mg/m ³ , TWA, Inhalable fraction
	India:	10 mg/m ³ , TWA
	Ireland:	2.4 mg/m ³ , TWA, Respirable dust
	Norway:	1.5 mg/m ³ , TWA, Respirable dust
	Switzerland:	4 mg/m ³ , TWA
	UK WEL:	6 mg/m ³ , TWA, Inhalable fraction 2.4 mg/m ³ , TWA, Respirable fraction

Dust, or Particulates Not Otherwise Specified:	Belgium:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
	China:	8 mg/m ³ , TWA 10 mg/m ³ , STEL
	Germany - TRGS 900:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , Respirable fraction
	United Kingdom - WEL:	10 mg/m ³ , TWA, Total Inhalable dust 4 mg/m ³ , TWA, Respirable dust
	US ACGIH - TLV:	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
	US OSHA - PEL:	15 mg/m ³ , TWA, Total dust 5 mg/m ³ , TWA, Respirable

INRS: Institut National de Recherche et de Securite (National Institute of Research and Security)

MAC: Maximaal Aanvaarde Concentraties (Maximum allowed concentration)

MAK: Maximale Arbeidsplatzkonzentration (Maximum Workplace Concentration)

OEL: Occupational Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TRGS: Technische Regeln für Gefahrstoffe (Technical Rule for Hazardous Materials)

TWA: Time Weighted Average

VME: Valeur Moyenne d'Exposition (Average Level of Exposure)

WEL: Workplace Exposure Limit

US ACGIH: United States American Conference of Governmental Industrial Hygienists

US OSHA: United States Occupational Safety and Health Administration

ENGINEERING CONTROLS

Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Ensure adequate ventilation to maintain exposures below occupational limits.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Approved respirator may be necessary if local exhaust ventilation is not adequate.

Hand Protection: Repeated exposure may cause skin dryness or cracking. Use protective barrier cream before handling the product. Wear suitable gloves.

Eye Protection: Wear eye/face protection. Safety glasses with side-shields. Goggles.

Skin and Body Protection: Wear suitable protective clothing. Remove and wash contaminated clothing before re-use. No special protective equipment required.

Other: Handle in accordance with good industrial hygiene and safety practice. Emergency eyewash and safety shower should be located nearby.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White flexible blanket

Odor: None

Odor Threshold: Not applicable

pH: Not determined

Boiling Point/Range: Not determined

Melting Point/Range: Fiber core melts at about 256°C and the sheaths melt at various temperatures from 110°C to 150°C (copolyolefin bicomponent fiber)

Water Solubility:	Insoluble
Relative Density:	50 - 100 kg/m ³
Bulk Density:	Not applicable
Specific Gravity:	Not applicable
Evaporation Rate:	Not applicable
Viscosity:	Not applicable
Partition Coefficient (n-octanol/water):	Not determined
Autoignition Temperature:	490°C
Method:	ASTM D-1929
Decomposition Temperature:	300 °C.
Oxidizing Properties:	Not determined

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Hazardous polymerization does not occur.
Conditions to Avoid:	Do not expose to temperatures above 300°C. Heating above 300°C leads to decomposition of Aerogel surface treatment. Decomposition vapor should be ventilated. Polyesters and nylon can burn if exposed to flame, releasing toxic and/or flammable fumes and vapors. Fiber core melts at about 256°C and the sheaths at various temperatures from 110°C to 150°C (copolyolefin bicomponent fiber).
Hazardous Decomposition and/or Combustion Products:	Organic products of decomposition, May emit toxic fumes under fire conditions.
Static Discharge Effects:	Not applicable.

11. TOXICOLOGICAL INFORMATION

Information given is based on data obtained from this substance or from similar substances.

ACUTE TOXICITY

Oral LD50: LD50/oral/rat = > 5000 mg/kg.

Inhalation LC50: Due to the product's physical characteristics, no suitable testing procedure is available.

Dermal LD50: No data are available on the product itself.

STOT - Single Exposure: None observed.

Eye Irritation: Draize score 1.0/110 @ 24 hr. Non-irritating.

Skin Irritation: Primary Dermal Irritation score = 0.0 Non-irritating

SUBCHRONIC TOXICITY

No data are available on the product itself.

STOT - Repeated Exposure: None expected

CHRONIC TOXICITY

Mutagenic Effects:

Not mutagenic in AMES Test, chromosomal aberration in Chinese hamster ovary (CHO) cells.

Reproductive Toxicity: No data are available on the product itself. According to experience not expected.

Sensitization: Non-sensitizing. A delayed contact hypersensitivity study in guinea pigs utilizing the Buehler technique was performed.

Synergistic Materials: None reasonably foreseeable.

Carcinogenic Effects: Does not contain any substances listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).

Aspiration Hazard: Not applicable

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Not determined

Other Information: Aquatic toxicity is unlikely due to low solubility.

ENVIRONMENTAL FATE

Mobility: Insoluble. Not expected to migrate.

Bioaccumulation: According to experience not expected.

Persistence / Degradability: The methods for determining biodegradability are not applicable to inorganic substances

PBT and vPvB Assessment: This substance does not fulfill the criteria for PBT or vPvB

Other adverse effects: None known

13. DISPOSAL CONSIDERATIONS

Disclaimer: Information in this section pertains to the product as shipped in its intended composition as described in Section 3 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

RCRA Classification (40 CFR 261): Non-hazardous.

Unused and Uncontaminated Product: Product, as supplied, should be disposed of in accordance with the regulations issued by the appropriate federal, state and local authorities. Same consideration should be given to containers and packaging.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Hazard Classification

United States - OSHA (29 CFR 1910.1200): Not hazardous.

Mexico - NOM-018-STPS-2000: Refer to HMIS Rating in Section 16.

Canada - WHMIS Classification (CPR, SOR/88-66): Not controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International Inventories

All components of this product are listed on or exempt from the following inventories:

NO - Australian Inventory of Chemical Substances (AICS)

YES - Canadian Domestic Substances List (DSL)

YES - Chinese Inventory

YES - European Inventory of Existing Commercial Chemical Substances (EINECS)

NO - Japanese Inventory of Existing and New Chemical Substances (ENCS)

NO - Korean Existing Chemicals List (KECL)

YES - New Zealand Hazardous Substances and New Organisms Act (HSNO)

YES - Philippine Inventory of Chemicals and Chemical Substances (PICCS)

YES - United States Toxic Substances Control Act (TSCA) Inventory

NOTE: The chemicals in this product may not be subject to notification in the following countries under an "article" exemption: Canada, Japan, New Zealand and Switzerland. Please contact your Cabot sales representative for more information.

U.S. Federal Regulations

TSCA 12(b) Export Notification: This product does not contain any components that are subject to TSCA 12(b) Export Notification.

Clean Air Act Amendments of 1990 (CAA, Section 112, 40 CFR 82): This product does not contain any components listed as a Hazardous Air Pollutant, Flammable Substance, Toxic Substance, or Class 1 or 2 Ozone Depletor.

Clean Water Act (CWA, 40 CFR 116) Priority Pollutants: This product does not contain any listed Priority Pollutants.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302): This product does not contain any listed Hazardous Substances.

Superfund Amendments and Reauthorization Act, Title III (SARA):

SARA Section 302 (40 CFR 355) Extremely Hazardous Substances: No components are listed as extremely hazardous substances under SARA Section 302.

SARA Sections 311/312 (40 CFR 370) Hazard Category: This product does not meet any of the MSDS Requirement definitions for a hazardous material under SARA Sections 311/312.

SARA Section 313 (40 CFR 372) Toxics Release Inventory: Does not contain any of the substances identified under Section 313 as toxic chemicals in excess of the de minimis concentrations necessary to be subject to the supplier notification requirements.

Pharmaceutical Information: Not permitted

U.S. State Regulations

California Proposition 65: This product does not contain any components listed on California Proposition 65.

US Coalition of NorthEastern Governors (CONEG) Metals List: This product meets the CONEG Source Reduction Council limits for the sum of the levels of lead, cadmium, mercury and hexavalent chromium of less than 100 parts per million by weight.

16. OTHER INFORMATION

HMIS Rating

HMIS Index: * - chronic, 0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe

Health: 1

Flammability: 1

Physical Hazard: 0

Prepared by: Cabot Corporation - Safety, Health and Environmental Affairs
Revision Date: 13/October/2011
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Reason for Revision: Revision to Section(s) 1, 9, 11, 12

Disclaimer:

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