Material Safety Data Sheet

Weyerhaeuser

Bleached Kraft Pulp

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Revised Date: August 26, 2009

1. Product Identification

Product	Manufacturing Location(s)
Pulp (cellulose)	**USA:** Columbus, MS; Oglethorpe (Flint River), GA; New Bern, NC; Port Wentworth, GA **CANADA:** Grande Prairie, AB

Synonyms: Bleached Sulphate Pulp

2. Hazardous Ingredients/Identity Information

Name	CAS#	Percent	Agency	Exposure Limits	Comments
Pulp (cellulose)	65996-61-4	99-100	OSHA	PEL-TWA 15 mg/m^3 (Particulate Not Otherwise Regulated)	Total dust
			OSHA	PEL-TWA 5 mg/m^3 (Particulate Not Otherwise Regulated)	Respirable dust
			ACGIH	TLV-TWA 10 mg/m^3 Cellulose	Total dust

*

3. Hazard Identification

Primary Safety/Health Hazards: **Warning:** Processed (e.g. fiberized) cellulose may pose a combustible dust explosion hazard if cellulose dust is suspended in air in sufficient concentrations in proximity to an ignition source. Bulk pulp as supplied and shipped in rolled or baled/sheet form does not constitute a combustible dust explosion hazard. Users of this product should examine the potential to generate cellulose dust during handling and processing and related combustibility hazards and controls. See additional comments in MSDS. The primary health hazard posed by this product is thought to be due to exposure to dust.

Appearance and Odor: The product is an odorless, white rolled or baled pulp sheet.
Primary Route(s) of Exposure:

- ☐ Ingestion:
- ☐ Skin:
- ☒ Inhalation: Dust
- ☒ Eye: Dust

3. Hazard Identification (cont'd.)

Medical Conditions Generally Aggravated by Exposure: Cellulose dust may aggravate pre-existing respiratory conditions or allergies.

Chronic Health Hazards: Cellulose (pulp) dust has not been shown to produce significant disease or toxic effects when exposure limits are met. Cellulose is poorly soluble and has a low order of toxicity.

Carcinogenicity Listing:

- ☐ NTP: Not listed
- ☐ IARC Monographs: Not listed
- ☐ OSHA Regulated: Not listed

4. Emergency and First-Aid Procedures

Ingestion: Not applicable for product in purchased form.

Eye Contact: Dust may mechanically irritate the eyes, resulting in redness or watering. Treat dust in eye as foreign object. Flush with water to remove dust particles. Seek medical help if irritation persists.

Skin Contact: Not applicable for product in purchased form.

Skin Absorption: Not applicable for product in purchased form.

Inhalation: Excessive dust concentrations may cause unpleasant deposit or obstruction in the nasal passages. Remove to fresh air. Seek medical help if persistent irritation, severe coughing or breathing difficulty occurs.

Note to Physician: None

5. Fire and Explosion Data

Flash Point (Method Used):

Flammable Limits: **LFL =** **NOTE**: See below under "Unusual Fire and Explosion Hazards" **UFL =** NAP

Extinguishing Media: Water

Autoignition Temperature: 450°F (232°C)

Special Firefighting Procedures: None

Unusual Fire and Explosion Hazards: Pulp processing (e.g. fiberization) may result in the release of cellulose fibers. Bulk pulp as supplied and shipped in rolled or baled/sheet form is highly unlikely to release sufficient cellulose dust to constitute a combustible dust explosion hazard. Depending on airborne concentration, moisture content, particle diameter, surface area and exposure to an ignition source, airborne cellulose dust may ignite and burn with explosive force. Cellulose dust explosibility: (*K_{st} dry = >200 and < 300 bar m/s). Caution should be taken in the processing, shipping, handling and use of these materials, particularly if they are in a dry state and dust is produced. Reference NFPA standards 654, 69 and the NFPA *Fire Protection Handbook* for guidance.

*K_{st} the maximum rate of pressure rise is used to calculate the K_{st} value; an internationally recognized index used to classify dust explosibility.

HMIS Rating (Scale 0-4):	**Health =**	0	**Fire =**	1	**Physical Hazard =**	0
NFPA Rating (Scale 0-4):	**Health =**	0	**Fire =**	1	**Reactivity =**	0

6. Accidental Release Measures

Steps to be Taken In Case Material Is Released or Spilled: Sweep or vacuum dust for recovery or disposal. Avoid dusty conditions and provide adequate ventilation.

6. Accidental Release Measures (cont'd.)

Use NIOSH-approved filtering face piece respirator ("dust mask") and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort. Dried cellulose dust may pose a combustible dust hazard.

Other Precautions: Minimize compressed air blowdown or other practices that generate high dust levels since cellulose dust may pose a combustible dust hazard.

7. Handling and Storage

Precautions to be Taken In Handling and Storage: Minimize dust generation and accumulation. Keep in cool, dry place away from open flame and other sources of ignition. Maintain good housekeeping to avoid accumulation of dried cellulose dust on exposed surfaces. Dried cellulose dust may pose a combustible dust hazard.

8. Exposure Control Measures, Personal Protection

Personal Protective Equipment:

RESPIRATORY PROTECTION – Use NIOSH-approved filtering face piece respirator ("dust mask") and goggles where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort when fiberization of the pulp occurs. Use respiratory protection in accordance with regulatory requirements such as the OSHA respiratory protection standard 29CFR 1910.134.

PROTECTIVE GLOVES – Not required. However, cloth, canvas, or leather gloves are recommended to minimize potential mechanical irritation from handling product.

EYE PROTECTION – Not applicable for product in purchased form. However, goggles or safety glasses are recommended if the product is used in such a way as to generate high dust levels.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT – Not applicable for product in purchased form. Outer garments may be desirable in extremely dusty areas.

WORK/HYGIENE PRACTICES – Not applicable for product in purchased form.

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met. Ventilation to control dust should be considered where potential explosive concentrations and ignition sources are present. The design and operation of any exhaust system should consider the possibility of explosive concentrations of combustible pulp dust within the system. See SPECIAL section below.

MECHANICAL (GENERAL) – Provide general ventilation in processing and storage areas so that exposure limits are met.

SPECIAL – Ensure that exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or suppression systems if the operating conditions justify their use.

OTHER – None

9. Physical/Chemical Properties

Physical Description: The product is an odorless, white rolled or baled pulp sheet.

Boiling Point (@ 760 mm Hg):	NAP
Evaporation Rate (Butyl Acetate = 1):	NAP
Freezing Point:	NAP
Melting Point:	NAP
Molecular Formula:	NAP
Molecular Weight:	NAP
Oil-water Distribution Coefficient:	NAP

9. Physical/Chemical Properties (cont'd.)

Odor Threshold:	ND
pH:	NAP
Solubility in Water (% by weight):	<1.0
Specific Gravity (H_2O = 1):	0.6
Vapor Density (air = 1; 1 atm):	NAP
Vapor Pressure (mm Hg):	NAP
Viscosity:	NAP
% Volatile by Volume [@ 70°F (21°C)]:	NAP

10. Stability and Reactivity

Stability: ☐ Unstable ☒ Stable
Conditions to Avoid: NAP
Incompatibility (Materials to Avoid): Avoid open flame, sparks and other sources of ignition.
Hazardous Decomposition or By-Products: Combustion products include carbon monoxide, carbon dioxide and fine particulate in the form of smoke.
Hazardous Polymerization: ☐ May occur ☒ Will not occur
Sensitivity to Mechanical Impact: NAP
Sensitivity to Static Discharge: NAP

11. Toxicological Information

Toxicity Data:
Cellulose: LC_{50} (rats, inhalation) = 5,800 mg/m^3/4 hours.
Target Organs: Eyes and respiratory system.

12. Ecological Information

Environmental Fate: Cellulose fiber slowly biodegrades in water (half life range 1 month-1 year in freshwater and coastal seawater). Cellulose fiber persists in arid soil (landfills).
Environmental Toxicity: NAV

13. Disposal Considerations

Waste Disposal Method: Recycling centers are available in nearly every major and most small cities within the US and Canada that can take waste paper at no charge. Deposit in a landfill or incinerate in accordance with federal, state and local regulations. Cellulose is not listed under any sections of the Resource Conservation and Recovery Act (RCRA) or Canadian National Pollution Release Inventory (NPRI) Follow all applicable federal, state, provincial and local regulations. It is, however, the user's responsibility to determine at the time of disposal whether your product meets RCRA criteria for hazardous waste. Note that cellulose dust may pose a combustible dust hazard.

14. Transport Information

Mode: (Air, Land, water) Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations. Not listed as a Hazardous material for IATA and IMDG.

14. Transport Information (cont'd.)

Proper Shipping Name:	NAP
Hazard Class:	NAP
UN/NA ID Number:	NAP
Packing Group:	NAP
Information Reported for Product/Size:	NAP

15. Regulatory Information

TSCA: Cellulose is listed on the TSCA inventory.
CERCLA: NAP
DSL: Cellulose is on the Domestic Substance List.
OSHA: OSHA Hazard Communication Standard [29 CFR 1910.1200] applies to cellulose as a physical and chemical hazard.
REACH: Pulp cellulose is exempt from registration under the European REACH regulations.
ENCS: Cellulose (pulp) is not listed or is exempt from the Japanese Existing and New Chemical Substances List as regulated by the Ministry of International Trade and Industry.
AICS: Cellulose is listed on the Australian Inventory of Chemical Substances.
KECL: Cellulose is listed on the South Korean Existing Chemicals List.
STATE RIGHT-TO-KNOW:
California Prop 65 – This product does not contain any substances listed under California Proposition 65 list at levels that pose a significant risk, or result in an observable effect for purposes of for purposes of Section 25249.10© of the Act.
New Jersey – This product does not contain any substances listed by the state of New Jersey.
Pennsylvania – This product contains cellulose, a substance listed by the state of Pennsylvania.
SARA 313 Information: To the best of our knowledge, this product contains no chemical subject to SARA Title II Section 313 supplier notification requirements.
SARA 311/312 Hazard Category: This product has been reviewed according to the E"A "Hazard Categories" promulgated under SARA Title III Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard	No
A delayed (chronic) health hazard	No
A corrosive hazard	No
A fire hazard	No
A reactivity hazard	No
A sudden release hazard	No

FDA: Meets FDA requirements for direct food contact.
WHMIS Classification: Not a controlled product.

16. Additional Information

Date Prepared: 05/07/2007
Date Revised: 08/26/2009
Prepared By: Weyerhaeuser Company Corporate Environment, Health & Safety
Weyerhaeuser MSDS available on: http://www.weyerhaeuser.com/Sustainability/MSDS
User's Responsibility: The information contained in this Material Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to make sure that this MSDS is the most up-to-date issue.

16. Additional Information (cont'd)

Definition of Common Terms:

ACGIH	=	American Conference of Governmental Industrial Hygienists
C	=	Ceiling Limit
CAS#	=	Chemical Abstracts System Number
DOT	=	U. S. Department of Transportation
DSL	=	Domestic Substance List
EC50	=	Effective concentration that inhibits the endpoint to 50% of control population
EPA	=	U.S. Environmental Protection Agency
HMIS	=	Hazardous Materials Identification System
IARC	=	International Agency for Research on Cancer
IATA	=	International Air Transport Association
IMDG	=	International Maritime Dangerous Goods
LC50	=	Concentration in air resulting in death to 50% of experimental animals
LCLo	=	Lowest concentration in air resulting in death
LD50	=	Administered dose resulting in death to 50% of experimental animals
LDLo	=	Lowest dose resulting in death
LEL	=	Lower Explosive Limit
LFL	=	Lower Flammable Limit
MSHA	=	Mine Safety and Health Administration
NAP	=	Not Applicable
NAV	=	Not Available
NIOSH	=	National Institute for Occupational Safety and Health
NFPA	=	National Fire Protection Association
NPRI	=	Canadian National Pollution Release Inventory
NTP	=	National Toxicology Program
OSHA	=	Occupational Safety and Health Administration
PEL	=	Permissible Exposure Limit
RCRA	=	Resource Conservation and Recovery Act
STEL	=	Short-Term Exposure Limit (15 minutes)
STP	=	Standard Temperature and Pressure
TCLo	=	Lowest concentration in air resulting in a toxic effect
TDG	=	Canadian Transportation of Dangerous Goods
TDLo	=	Lowest dose resulting in a toxic effect
TLV	=	Threshold Limit Value
TSCA	=	Toxic Substance Control Act
TWA	=	Time-Weighted Average (8 hours)
UFL	=	Upper Flammable Limit
WHMIS	=	Workplace Hazardous Materials Information System