



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

SECTION I

PRODUCT AND COMPANY IDENTIFICATION

Product: Cellulose

This MSDS is valid for all grades and catalog #'s

Synonyms: Cellulose, Microcrystalline, flour cellulose, alpha-Cellulose

Formula: POLYMER

Manufacturer: PHARMCO-AAPER
58 Vale Road
Brookfield, Connecticut 06804, USA
Phone (203) 740-3471
Fax (203) 740-3481

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Shelbyville, KY 40065
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Emergency Contact:
CHEMTREC 1-800-424-9300

SECTION II

COMPOSITION / INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
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100	Cellulose	9004-34-6	TWA: 10 (mg/m3) from ACGIH (TLV) [United States] Inhalation Total. TWA: 10 (mg/m3) from British Columbia Occupational Exposure Limit [Canada] Inhalation Total. TWA 3 from British Columbia Occupational Exposure Limit [Canada] Inhalation Respirable. TWA 5 (mg/m3) from OSHA (PEL) [United States] Inhalation Respirable. TWA: 15 (mg/m3) from OSHA (PEL) [United States] Inhalation Total.	ORAL (LD50) Acute: >5000 mg/kg [Rat]. DERMAL (LD50): Acute: >2000 mg/kg [Rabbit] DUST (LC50): Acute: 5800 mg/m3 4 hours [Rat].
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SECTION III

HAZARDS IDENTIFICATION

Potential Acute Health Effects: Slightly hazardous in case of eye contact (irritant), of ingestion, of inhalation. Non-irritant for skin.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

SECTION IV

FIRST AID

Obtain medical attention for all cases of over-exposure.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops.

Hazardous Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Hazardous Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Hazardous Ingestion: Not available.

SECTION V

FIRE FIGHTING MEASURES

Fire:

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition temperature: Not available.

Flash point: Not available.

Flammable limits: Not available.

Products of Combustion: Not available.

Fire Hazards: Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards: Risks of explosion of the product in

presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Extinguishing Media: SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Information: Damp cellulose can be a significant fire hazard since it may undergo spontaneous combustion. Fire and explosions may occur from reactions involving pentafluoride, acetic acid and cellulose. Contact between cellulose and sodium nitrite at elevated temperatures results in vigorous burning from decomposition reaction. Fire and explosions may occur from reactions involving pentafluoride, acetic acid and cellulose. Contact between cotton and fluorine may result in violent explosion. Excess dust generation may create explosion hazard.

SECTION VI

SPILL/ACCIDENTAL RELEASE MEASURES

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

SECTION VII

HANDLING AND STORAGE

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

SECTION VIII

EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Gloves (impervious).

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: TWA: 10 (mg/m³) from ACGIH (TLV) [United States] Inhalation Total. TWA: 10 (mg/m³) from British Columbia Occupational Exposure Limit [Canada] Inhalation Total. TWA: 3 from British Columbia

Occupational Exposure Limit [Canada] Inhalation Respirable.

TWA: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable. TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total. TWA: 10 STEL: 20 (mg/m³) [United Kingdom (UK)] Inhalation Total. TWA: 4 (mg/m³) [United Kingdom (UK)] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

SECTION IX

PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance: Solid. (A polymer consisting of linked glucose units (cellobiose) in unbranched linear chains. It may exist as a fibrous or white crystalline solid. Microcrystalline cellulose consists of rigid rods. It is the main constituent of plant fiber.)

Molecular Weight: Not available.

Odor: Odorless

Taste: Tasteless.

Color: Off-white.

pH (1% Solution in Water): Not applicable

Boiling Point: Decomposes.

Melting Point: 500°C (932°F) - 518 C

Critical Temperature: Not available.

Specific Gravity: 1.27 - 1.61@ 0 C (32 F)(Water = 1) 0.28-.032 (temperature not listed)

Vapor Pressure (mm Hg): Not applicable.

Vapor Density (Air=1): Not available.

Volatility: Not available.

Odor Threshold: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Water/Oil Dist. Coefficient: Not available.

Ionicity (in water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water, hot water. Insoluble in organic solvents. It will swell in dilute alkaline solutions such as sodium hydroxide and will dissolve in caustic alkali with carbon disulfide. It is soluble in ammoniacal copper hydroxide solution (Schweitzer's reagent) and concentrated zinc chloride solution.

SECTION X

STABILITY/REACTIVITY INFORMATION

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, incompatible materials

Incompatibilities: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Information: Not available.

SECTION XI

TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): >5000

mg/kg [Rat]. Acute dermal toxicity (LD50): >2000 mg/kg [Rabbit]. Acute toxicity of the dust (LC50): 5800 mg/m³ 4 hours [Rat].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of ingestion, of inhalation. Non-irritant for skin.

Special Information on Toxicity to Animals: Not available.

Special Information on Chronic Effects/Toxicity on Humans: Acute Potential Health Effects: Skin: It is not known to cause skin irritation. Ingestion: Ingestion of large amounts of cellulose may cause digestive tract irritation. Eyes: Dust may cause mechanical irritation. To the best of our knowledge, there are no known cases of adverse effects or disease in humans from exposure to cellulose. Health effects from cotton fibers, wood, flax, jute, and hemp are usually due to other substances. Purified cellulose is known to be essentially inert. Pure cellulose dust is not known to be irritating or toxic. Chronic Potential Health Effects: Chronic inhalation from cellulose-containing fibers can cause byssinosis. Allergies can develop to cellulose-containing fibers, but these are probably due to plant proteins or other components. In chronic feeding studies with purified cellulose in mice and rats, no significant adverse reactions were seen.

SECTION XII

ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Information on Products of Biodegradation: Not available.

SECTION XIII

DISPOSAL CONSIDERATIONS

Waste Disposal: Recycle to process, if possible. Consult your local or regional authorities.

SECTION XIV

TRANSPORTATION INFORMATION

DOT Classification: DOT Not a DOT controlled material (United States).

UN: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION XV

REGULATORY INFORMATION

Federal and State Regulations: Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE** Pennsylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **Cellulose** Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE** Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: **NONE**

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).
DSCL (EEC): This product is not classified according to the EU regulations.

Protective Equipment: Gloves (impervious). Lab coat. Safety glasses.

References: Not available.

Other Special Considerations: Not available.

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.