

Material Safety Data Sheet

Microcrystalline Cellulose MSDS

Section 1: Chemical Product and Company Identification

Product Name: Microcrystalline Cellulose

CAS#: 9004-34-6

CI#: Not available.

Synonym: Cellulose, Microcrystalline

Chemical Name: Cellulose

Chemical Formula: POLYMER

Contact Information:

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Microcrystalline Cellulose	9004-34-6	100%

Toxicological Data on Ingredients: Not applicable.

Section 3: 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 4: First Aid Measures

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.

Serious 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.

Serious 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.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

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

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of open flames and sparks, of heat.

Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

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 Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:

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.

Special Remarks on Explosion Hazards:

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 6: 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 7: 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:No

Section 8: 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 9: Physical and Chemical Properties**Physical state and 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.)

Odor: Odorless.

Taste: Tasteless.

Molecular Weight: Not available.

Color: Off-white.

pH (1% soln/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: Not applicable.

Vapor Density: Not available.

Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: 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 10: Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Excess heat, incompatible materials
Incompatibility with various substances: Not available.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: Not available.
Special Remarks on Corrosivity: Not available.
Polymerization: Will not occur.

Section 11: 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/m
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 Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects 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 12: 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 Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

IATA: NOT RESTRICTED TO IATA DGR ACCORDING TO SPECIAL PROVISION A123

IMO: NOT RESTRICTED TO IMDG CODE ACCORDING TO SPECIAL PROVISION 304

Section 15: Other Regulatory Information

Federal and State Regulations:

Illinois toxic substances disclosure to employee act: Cellulose

Rhode Island RTK hazardous substances: Cellulose

Pennsylvania RTK: Cellulose

Minnesota: Cellulose

Massachusetts RTK: Cellulose

TSCA 8(b) inventory: Cellulose

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

This product is not classified according to the EU regulations.

HMIS (U.S.A.): Not applicable.

Health Hazard: 1
Fire Hazard: 1
Reactivity: 0
Personal Protection: B
National Fire Protection Association (U.S.A.): Not applicable.

Health: 1
Flammability: 1
Reactivity: 0

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

Section 16: Other Information

References: Not available.
Other Special Considerations: Not available.
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