

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>BERMOCOLL<sup>®</sup> M and BCM Grades (ALL)</b>
<b>Chemical Name</b>	Cellulose, 2-hydroxyethyl methyl ether
<b>Synonym(s)</b>	Methyl Ethyl Hydroxyethyl Cellulose; MEHEC
<b>Product Use</b>	Thickening agent, rheology control
<b>Manufacturer / Supplier</b>	Akzo Nobel Functional Chemicals LLC Cellulosic Specialties 281 Fields Lane, Brewster, NY, USA 10509 Tel. (845) 276-8230
<b>Emergency Telephone Numbers</b>	
<b>CHEMICAL EMERGENCY</b> (Spill, Leak, Fire, Exposure or Accident)	CHEMTREC (800) 424-9300 (Toll-free in the U.S., Canada, and the U.S. Virgin Islands) (24-hr) (703) 527-3887 (For calls originating elsewhere / collect calls are accepted) CANUTEC (613) 996-6666 (Canada)
<b>MEDICAL / HANDLING EMERGENCIES</b>	(914) 693-6946 [AkzoNobel – USA]

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

*This material is not considered hazardous by the OSHA Hazard Communication Standard [29 CFR 1910.1200]*

#### CAUTION !

- **May cause skin, eyes and respiratory tract irritation.**
- **Organic dust above a certain concentration in the air may be an explosion hazard.**
- **As with any organic material, Bermocoll cellulose ethers should not be stored next to peroxides or other oxidizing agents.**

**Appearance and odor** Odorless white powder

### **POTENTIAL HEALTH EFFECTS** [See Section 11 for additional information]

**Primary Route(s) of Exposure** Eye contact, skin contact and inhalation

#### **Acute Exposure**

##### **Inhalation**

Exposure to an excessive concentration of dust may cause respiratory tract discomfort and/or mild irritation.

##### **Skin Contact**

Brief skin contact is not expected to cause irritation. However, repeated or prolonged contact may cause irritation with itching and reddening of the skin.

##### **Eye Contact**

Eye contact may cause irritation with tearing and reddening of the eyes.

##### **Ingestion**

This product is expected to have a low order of acute toxicity.

#### **Carcinogenicity**

This product and its components are not listed as known carcinogens or potential carcinogens by **IARC** (International Agency for Research on Cancer), **ACGIH** (American Conference of Governmental Industrial Hygienists), **NTP** (National Toxicology Program), **OSHA** (U.S. Occupational Safety & Health Administration) and **EPA** (U.S. Environmental protection Agency).

#### **Chronic Effect / Developmental Toxicity**

None known

## 2. HAZARDS IDENTIFICATION (CONTINUED)

**Medical Conditions** None known.  
**Aggravated by Exposure**

### **POTENTIAL ENVIRONMENTAL EFFECTS** [See Section 12 for additional information]

**Aquatic Toxicity** This product is not expected to be harmful to aquatic life, based on available data.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS Number	% (w/w)
Methyl Ethyl Hydroxyethyl Cellulose	9032-42-2	80-100

## 4. FIRST AID MEASURES

**Inhalation** Remove victim to fresh air. Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. If symptoms persist, seek medical advice.

**Skin Contact** Remove contaminated clothing, shoes and equipment. Wash all affected areas with soap and plenty of water. Wash contaminated clothing and shoes before reuse. Get medical attention if irritation occurs or persists.

**Eye Contact** Flush eyes with large quantities of running water for a minimum of 15 minutes. If the victim is wearing contact lenses, remove them. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention if irritation occurs or persists.

**Ingestion** ONLY induce vomiting at the instructions of a physician. If victim is conscious, rinse mouth and give water or milk to drink. Never give anything by mouth to an unconscious person. Get medical attention if health effects occur or if large quantity of product has been swallowed.

**Note to Physician** Attending physician should treat exposed patients symptomatically.

## 5. FIRE FIGHTING MEASURES

**Flammable Properties** not flammable or combustible

**Extinguishing Media** Use water fog or spray, dry chemical, foam or carbon dioxide extinguishing agents.

**Fire Fighting Procedures** As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate all non-essential personnel from the fire area. Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing.

**Fire & Explosion Hazards** This product is not defined as flammable or combustible. However, organic dust, above a certain concentration in the air, may be an explosion hazard. Depending upon conditions, dust may be sensitive to static discharge. Avoid possibility of dry powder with friction causing static electricity in presence of flammables. (See NFPA-77, Chap. 6).

**Hazardous Combustion Products** Thermal decomposition products may release toxic and/or hazardous fumes and gases, including nitrogen oxides and carbon oxides.

**NFPA Hazard Rating** **Health: 0 / Fire: 1 / Instability: 0 / Other: None**  
[0 – Minimal / 1 – Slight / 2 – Moderate / 3 – High / 4 – Extreme]

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions** All personnel involved in spill cleanup should avoid skin and eye contact by wearing appropriate personal protective equipment.

**Methods for Containment** Safely stop source of spill. Restrict non-essential personnel from area.

## 6. ACCIDENTAL RELEASE MEASURES (CONTINUED)

<b>Environmental Precautions</b>	Collect as much as possible in a clean container for reuse (if not contaminated) or disposal (if contaminated). Prevent discharge of larger quantities to drain or water courses.
<b>Methods for Clean-up</b>	Sweep up spilled solid material, being careful not to create dust. Return sweepings to stock or, if contaminated, place into a chemical waste container for disposal according to local, state and/or federal regulations. Flush with plenty of water to clean spillage area.
<b>Other Information</b>	See also Section 13 for disposal information.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid handling which leads to dust formation. No sparking tools should be used. Dust mask and safety goggles are recommend as fine powder can become airborne and may be irritating to the eyes and nose. Any spilled powder should be swept up immediately, as it will become slippery when wet.
<b>Storage</b>	Keep bags in a dry place and prevent from tearing as product will pick-up ambient moisture if exposed to the atmosphere. Do not store with oxidizing agents.
<b>Recommended Storage Temperature</b>	Store in sealed or original containers in a cool and dry place at ambient temperatures.
<b>General Comments</b>	Bags should not be opened until ready for use. Partial bags should be resealed to prevent absorption of moisture from the air, which will cause the product to cake and reduce the product quality.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	OSHA – PELs (mg / m <sup>3</sup> )		ACGIH – TLVs (mg / m <sup>3</sup> )		NIOSH – RELs (mg / m <sup>3</sup> )		AIHA – WEELs (mg / m <sup>3</sup> )	
	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)
Methyl Ethyl hydroxyethyl cellulose	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D

[Ref: ACGIH Guide to Occupational Exposure Values, 2008 Edition]

#### Legend:

CEIL:	Ceiling Exposure Limit	PEL:	Permissible Exposure Limit	REL:	Recommended Exposure Limit
STEL:	Short Term Exposure Limit	TLV:	Threshold Limit Value	TWA:	Time-Weighted Average
N/D:	Not Determined	WEEL:	Workplace Environmental Exposure Level		
ACGIH:	American Conference of Governmental Industrial Hygienists				
AIHA:	American Industrial Hygiene Association				
NIOSH:	National Institute for Occupational Safety and Health				
OSHA:	Occupational Safety and Health Administration				

**Engineering Controls & Ventilation** Special ventilation is usually not required under normal use conditions. Ensure that existing ventilation (mechanical or local exhaust) is sufficient to prevent the circulation and/or accumulation of dust in the air.

Permissible Concentration in air: 4 mg/m<sup>3</sup>

### Personal Protective Equipment (PPE)

<b>Respiratory</b>	If ventilation is insufficient, suitable respiratory protection must be provided. Wear mask supplied with dust filter P2 (for fine dust).
<b>Skin</b>	Irritation has been noted with some individuals. Therefore, skin contact with the product should be minimized or prevented through the use of suitable protective clothing, gloves and/or footwear selected according to use condition exposure potential.
<b>Eyes/Face</b>	As with any nuisance particles, care should be taken to prevent contact with the surfaces of the eyes (e.g. goggles, safety glasses).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONTINUED)

**Hygiene Measures** All food and smoking materials should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, drinking and smoking, hands and face should be thoroughly washed.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

<b>Form</b>	powder
<b>Color</b>	white
<b>Odor</b>	none
<b>Boiling Point</b>	not applicable
<b>Bulk Density</b>	300-400 kg/m <sup>3</sup>
<b>Evaporation Rate</b> (Butyl Acetate=1)	not determined
<b>Melting Point</b>	not determined
<b>Odor Threshold</b>	not determined
<b>pH</b>	neutral to slightly acidic (undiluted product)
<b>Partition Coefficient</b> (n-octanol/water)	not determined
<b>Solubility in Water</b>	miscible
<b>Solubility in Other Solvents</b>	soluble in lower alcohols
<b>Specific Gravity (Water = 1)</b>	1.33
<b>Vapor Density (Air = 1)</b>	not applicable
<b>Vapor Pressure</b>	not applicable
<b>Viscosity</b>	1000 cps (1% solution)
<b>Volatiles (% by weight)</b>	not applicable
<b>Other</b>	none available
<b>Flammability</b>	not flammable or combustible
<b>Flash Point (Method)</b>	> 302°F (> 150°C)
<b>Upper Flammable Limit</b> (% by volume)	0.8% (200 mesh)
<b>Lower Flammable Limit</b> (% by volume)	0.6% (200 mesh)
<b>Auto-Ignition Temperature</b>	> 302°F (> 150°C)

< : less than    > : greater than    ≈ : approximately

## 10. STABILITY AND REACTIVITY

**Chemical Stability** This product is stable at ambient temperatures and atmospheric pressures. It is not self-reactive and has a shelf life of several years in unopened bags. It is not sensitive to physical impact.

**Incompatible Materials** This product is incompatible with oxidizers, peroxides and strong acids.

**Conditions to Avoid** Avoid exposure to ambient moisture. Avoid elevated temperatures. At temperatures above 100°C (212°F), the product will slowly decompose and dissolving qualities are impaired. At temperatures greater than 200°C (392°F), charring of the product will occur.

**Hazardous Decomposition Products** Under fire conditions the product may support combustion and decomposes to give off carbon oxides fumes (CO, CO<sub>2</sub>), nitrogen oxides and water vapor.

## 10. STABILITY AND REACTIVITY (CONTINUED)

**Possibility of Hazardous Reactions** Hazardous polymerization is not expected to occur under normal temperatures and pressures.

## 11. TOXICOLOGICAL INFORMATION

<b>Inhalation - Acute</b>	The acute LC <sub>50</sub> for this product is not available. Exposure to an excessive concentration of dust may cause respiratory tract discomfort and/or mild irritation.
<b>Inhalation - Chronic</b>	No known effects for this product.
<b>Skin - Acute</b>	Dermal toxicity for this product is not available. This product is mildly irritating to rabbit skin. Skin contact may cause itching and reddening.
<b>Skin - Chronic</b>	Repeated or prolonged contact may cause irritation.
<b>Eyes</b>	This product may cause mild eye irritation, with tearing and reddening.
<b>Ingestion - Acute</b>	The oral LD <sub>50</sub> is greater than 2,000 mg/kg (rat).
<b>Ingestion - Chronic</b>	No other known effects for the mixture.
<b>Sensitization</b>	This product is not sensitizing based on a Magnusson-Klingman test.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by IARC, NTP, ACGIH or OSHA.
<b>Mutagenicity</b>	No data available.
<b>Cytotoxicity</b>	No data available.
<b>Reproductive Toxicity / Teratogenicity / Embryotoxicity</b>	No data available.
<b>Other Effects</b>	None known.
<b>Target Organs</b>	Eyes, skin.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Experiments yielded the following environmental data:

Test	Exposure / Duration	Test Results
Daphnia Magna	48-h	EC <sub>50</sub> > 100 mg/L
Fish	96-h	LC <sub>50</sub> > 100 mg/L

<b>Biodegradation</b>	This product is not readily biodegradable.
<b>Bioaccumulation</b>	No data available.
<b>Other Ecotoxicity information</b>	No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal** In its unused condition, this product is not considered to be a RCRA-defined hazardous waste by characteristics or listings. It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristic or listing. Dispose in accordance with all local, state and federal regulations.  
NOTE – State and local regulations may be more stringent than federal regulations.

### 13. DISPOSAL CONSIDERATIONS (CONTINUED)

**Container Disposal** Containers should be cleaned of residual product before disposal or return. Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be disposed of or shipped in accordance with all applicable laws and regulations.

### 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	Proper Shipping Name	Class	PG	Label	Additional Information
US DOT Canada TDG IMDG IATA / ICAO	N/R	N/R	N/R	N/R	N/R	This product is <b>not regulated</b> as a hazardous substance for transport.

**Environmentally Hazardous Substances** None known.  
[49 CFR 172.101, Appendix A]

### 15. REGULATORY INFORMATION

**Regulatory Lists / Inventories:** The components are subject to the following regulatory lists and inventories:

Substance Name	CAA	CERCLA	IARC	US STATE RIGHT-TO-KNOW LISTS	CA PROP 65	SARA
Methyl Ethyl hydroxyethyl cellulose	N/R	N/R	N/R	N/R	N/R	N/R

National Chemical Inventories Status:

Substance Name	US TSCA	Canada		EU EINECS	Australia AICS	New Zealand NZIoC	Japan ENCS	Korea KECI	Philippines PICCS	China IECSC
		DSL	NDSL							
Methyl Ethyl hydroxyethyl cellulose	X	X		X	X	X	X	X	X	X

**Legend**

- AICS Australian Inventory of Chemical Substances
- CA LIST California – Directors List of Hazardous Substances
- CA PROP 65 California Proposition 65
- CAA Clean Air Act, Section 112
- CERCLA CERCLA Hazardous Substances
- DSL Domestic Substances List – Canada
- EINECS European Inventory of Existing Commercial Chemical Substances
- ENCS Japan Existing and New Chemical Substances
- FL LIST Florida – Substance List
- IARC International Agency for Research on Cancer – Carcinogens – Groups 1, 2A or 2B
- IECSC China – Inventory of Existing Chemical Substances
- IL LIST Illinois Toxic Substances Disclosure to Employees Act
- KECI Korea Existing Chemicals Inventory
- LA LIST Louisiana Right-to-Know Reporting List
- MA LIST Massachusetts – R-T-K Substance List
- MN LIST Minnesota – Hazardous Substance List
- NDSL Non-Domestic Substances List – Canada
- NJ R-T-K New Jersey – R-T-K Hazard List
- N/R Non Regulated
- NZIoC New Zealand Inventory of Chemicals
- PA LIST Pennsylvania Hazardous Substance List
- PICCS Philippines Inventory of Chemicals and Chemical Substances
- RI LIST Rhode Island – Hazardous Substance List
- SARA SARA Title III, Section 302 / 313
- TSCA Toxic Substances Control Act – USA
- X Listed and/or Regulated

## 15. REGULATORY INFORMATION (CONTINUED)

### CANADA – WHMIS (Workplace Hazardous Materials Information System)

**Not Controlled**

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

**Other Regulatory Information**

None available.

## 16. OTHER INFORMATION

**HMIS RATING**

**Health: 0 / Flammability: 1 / Physical Hazard: 0 / Other: none**  
[ 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – High / 4 – Extreme / \* - Chronic Health Hazard (see Section 11)]

**Trademark**

Bermocoll<sup>®</sup> is a registered trademark of Akzo Nobel Chemicals B.V.

**Date of Issue / Revision**

May 19, 2009

**Changes**

All sections, Corporate Logo, Document Format

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**Disclaimer**

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