

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	Bermocoll[®] E, EM, CCA, EBS and EBM Grades (ALL)
Chemical Name	Ethyl Hydroxyethyl Cellulose
Synonym(s)	EHEC
Product Use	Thickening agent, rheology control
Manufacturer / Supplier	Akzo Nobel Functional Chemicals LLC Cellulosic Specialties 281 Fields Lane, Brewster, NY, USA 10509 Tel. (845) 276-8230

Emergency Telephone Numbers

CHEMICAL EMERGENCY (Spill, Leak, Fire, Exposure or Accident)	CHEMTREC (24-hr)	(800) 424-9300 (Toll-free in the U.S., Canada, and the U.S. Virgin Islands) (703) 527-3887 (For calls originating elsewhere / collect calls are accepted)
	CANUTEC (Canada)	(613) 996-6666
MEDICAL / HANDLING EMERGENCIES		(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 !	<ul style="list-style-type: none">▪ 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.
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Appearance and odor White powder with a slight characteristic odor

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)
Ethyl Hydroxyethyl Cellulose	9004-58-4	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)

Environmental Precautions	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.
Methods for Clean-up	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.
Other Information	See also Section 13 for disposal information.

7. HANDLING AND STORAGE

Handling	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.
Storage	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.
Recommended Storage Temperature	Store in sealed or original containers in a cool and dry place at ambient temperatures.
General Comments	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 ³)		ACGIH – TLVs (mg / m ³)		NIOSH – RELs (mg / m ³)		AIHA – WEELs (mg / m ³)	
	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)	TWA	STEL / CEIL(C)
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/m³

Personal Protective Equipment (PPE)

Respiratory	If ventilation is insufficient, suitable respiratory protection must be provided. Wear mask supplied with dust filter P2 (for fine dust).
Skin	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.
Eyes/Face	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

Form	powder
Color	white
Odor	slight characteristic odor
Boiling Point	not applicable
Bulk Density	not determined
Evaporation Rate (Butyl Acetate=1)	not determined
Melting Point	not determined
Odor Threshold	not determined
pH	neutral to slightly acidic (undiluted product)
Partition Coefficient (n-octanol/water)	not determined
Solubility in Water	miscible
Solubility in Other Solvents	soluble in lower alcohols
Specific Gravity (Water = 1)	1.33
Vapor Density (Air = 1)	not applicable
Vapor Pressure	not applicable
Viscosity	not applicable
Volatiles (% by weight)	not applicable
Other	none available
Flammability	not flammable or combustible
Flash Point (Method)	> 302°F (> 150°C)
Upper Flammable Limit (% by volume)	0.8% (200 mesh)
Lower Flammable Limit (% by volume)	0.6% (200 mesh)
Auto-Ignition Temperature	> 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, CO₂), 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

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

12. ECOLOGICAL INFORMATION

Ecotoxicity Experiments yielded the following environmental data:

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

Biodegradation	This product is not readily biodegradable.
Bioaccumulation	No data available.
Other Ecotoxicity information	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 not regulated 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
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							
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® is a registered trademark of Akzo Nobel Chemicals B.V.

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Changes

All sections; Corporate Logo; Document Format

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