



# Material Safety Data Sheet

The Dow Chemical Company

**Product Name:** METHOCEL\* K4M Premium CR Hydroxypropyl Methylcellulose

**Issue Date:** 08/15/2007

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The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. Product and Company Identification

### Product Name

METHOCEL\* K4M Premium CR Hydroxypropyl Methylcellulose

### COMPANY IDENTIFICATION

The Dow Chemical Company  
2030 Willard H. Dow Center  
Midland, MI 48674  
USA

Customer Information Number: 800-258-2436

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 989-636-4400

**Local Emergency Contact:** 989-636-4400

## 2. Hazards Identification

### Emergency Overview

**Color:** White to off-white

**Physical State:** Powder

**Odor:** Odorless

### Hazards of product:

CAUTION! May form explosive dust-air mixture. Slipping hazard. Avoid temperatures above 130°C (266°F)

### OSHA Hazard Communication Standard

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Potential Health Effects

**Eye Contact:** Solid or dust may cause irritation or corneal injury due to mechanical action.

**Skin Contact:** Essentially nonirritating to skin.

**Skin Absorption:** No adverse effects anticipated by skin absorption.

**Inhalation:** No adverse effects are anticipated from single exposure to dust.

\* Indicates a Trademark

**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

### 3. Composition Information

Component	CAS #	Amount
Hydroxypropyl methyl cellulose	9004-65-3	>= 85.0 - <= 99.0 %
Sodium chloride	7647-14-5	>= 0.5 - <= 5.0 %
Water	7732-18-5	>= 1.0 - <= 10.0 %

### 4. First-aid measures

**Eye Contact:** Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected. If effects occur, consult a physician, preferably an ophthalmologist.

**Skin Contact:** Wash skin with plenty of water.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Ingestion:** No emergency medical treatment necessary.

**Notes to Physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. Fire Fighting Measures

**Extinguishing Media:** Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

**Unusual Fire and Explosion Hazards:** Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

### 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Sweep up. Use care to minimize generation of airborne dust. Do not use water for cleanup. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Material becomes slippery when wet. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and Storage

### Handling

**General Handling:** Keep away from heat, sparks and flame. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. Good housekeeping and controlling of dusts are necessary for safe handling of product. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

### Storage

Store in a dry place. See Section 10 for more specific information.

**Storage temperature:** 5 - 35 °C

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Hydroxypropyl methyl cellulose	Dow IHG	TWA Total dust	10 mg/m <sup>3</sup>

### Personal Protection

**Eye/Face Protection:** Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

**Skin Protection:** No precautions other than clean body-covering clothing should be needed.

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Particulate filter.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls

**Ventilation:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

## 9. Physical and Chemical Properties

Physical State	Powder
Color	White to off-white
Odor	Odorless
Flash Point - Closed Cup	No test data available
Flammable Limits In Air	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
Autoignition Temperature	No test data available
Vapor Pressure	Not applicable
Boiling Point (760 mmHg)	Not applicable.
Vapor Density (air = 1)	Not applicable

<b>Specific Gravity (H2O = 1)</b>	No test data available
<b>Freezing Point</b>	Not applicable
<b>Melting Point</b>	No test data available
<b>Solubility in Water (by weight)</b>	completely soluble in water
<b>pH</b>	Not applicable
<b>Kinematic Viscosity</b>	Not applicable

## 10. Stability and Reactivity

### Stability/Instability

Stable under recommended storage conditions. See Storage, Section 7.

**Conditions to Avoid:** Avoid temperatures above 130°C (266°F) Exposure to elevated temperatures can cause product to decompose. Avoid static discharge.

**Incompatible Materials:** Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases.

### Hazardous Polymerization

Will not occur.

### Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials.

## 11. Toxicological Information

### Acute Toxicity

#### Ingestion

For similar material(s): LD50, Rat > 10,000 mg/kg

#### Skin Absorption

The dermal LD50 has not been determined.

### Repeated Dose Toxicity

Repeated ingestion of similar cellulose derivatives by humans has not resulted in known significant adverse effects.

### Chronic Toxicity and Carcinogenicity

Similar cellulose derivatives did not cause cancer in long-term animal studies.

### Developmental Toxicity

Similar cellulose derivatives did not cause birth defects or other toxic effects to the fetus in laboratory animal studies.

### Reproductive Toxicity

In animal studies, a similar cellulose derivative has been shown not to interfere with reproduction.

### Genetic Toxicology

Similar cellulose derivatives were negative in both in vitro and animal genetic toxicity studies.

## 12. Ecological Information

### CHEMICAL FATE

### Movement & Partitioning

No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**Persistence and Degradability**

|| No appreciable biodegradation is expected.

**ECOTOXICITY**

|| Not expected to be acutely toxic to aquatic organisms.

**13. Disposal Considerations**

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOW HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. Landfill. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

**14. Transport Information**

|| **DOT Non-Bulk**  
NOT REGULATED

|| **DOT Bulk**  
NOT REGULATED

|| **IMDG**  
NOT REGULATED

|| **ICAO/IATA**  
NOT REGULATED

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

**15. Regulatory Information**

**OSHA Hazard Communication Standard**

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

Immediate (Acute) Health Hazard	No
Delayed (Chronic) Health Hazard	No
Fire Hazard	No

**Reactive Hazard** No  
**Sudden Release of Pressure Hazard** No

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**US. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**CEPA - Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

## 16. Other Information

### Product Literature

Additional information on this and other Dow products may be obtained by visiting our web page at [www.dow.com](http://www.dow.com).

### Recommended Uses and Restrictions

Thickener. Binder. Film former. Processing aid. Dow recommends that you use this product in a manner consistent with the listed use. If your intended use is not consistent with Dow's stated use, please contact Dow's Customer Information Group.

### Revision

Identification Number: 79463 / 1001 / Issue Date 08/15/2007 / Version: 2.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

*The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*