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® J75M S Hydroxypropyl Methylcellulose

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

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

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: Mild

Hazard of product:

WARNING! May cause allergic skin reaction. May form explosive dust-air mixture. Slipping hazard. Avoid temperatures above 130°C (266°F)

OSHA Hazard Communication Standard
This product is 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.
Skin Sensitization: For the minor component(s): Skin contact may cause an allergic skin reaction. Inhalation: No adverse effects are anticipated from single exposure to dust. Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.

3. Composition Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxypropyl methyl cellulose</td>
<td>9004-65-3</td>
<td>&gt;= 85.0 - &lt;= 95.0</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt;= 1.0 - &lt;= 10.0</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>&gt;= 0.5 - &lt;= 5.0</td>
</tr>
<tr>
<td>Ethanedial</td>
<td>107-22-2</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td>Polyglycol and carboxylic acid</td>
<td>Trade secret</td>
<td>&lt;= 4.0</td>
</tr>
</tbody>
</table>

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: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. 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. Emergency Personnel Protection: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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: Contain spilled material if possible. 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: Spilled material may cause a slipping hazard. 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

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxypropyl methyl cellulose</td>
<td>Dow IHG</td>
<td>TWA Total dust</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Ethanedial</td>
<td>AIHA WEEL</td>
<td>TWA Inhalable fraction and vapor.</td>
<td>0.1 mg/m³ 0.042 ppm D-SEN</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA Inhalable fraction and vapor.</td>
<td>0.1 mg/m³ SEN</td>
</tr>
</tbody>
</table>

A "SEN" notation following the exposure guideline refers to the potential to produce sensitization, as confirmed by human or animal data.

A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

Personal Protection

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

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical
requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**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. For most conditions, no respiratory protection should be needed; however, in dusty 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Powder</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White to off-white</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No test data available</td>
</tr>
<tr>
<td><strong>Flash Point - Closed Cup</strong></td>
<td>No test data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Flammable Limits In Air</strong></td>
<td>Lower: No test data available</td>
</tr>
<tr>
<td></td>
<td>Upper: No test data available</td>
</tr>
<tr>
<td><strong>Autoignition Temperature</strong></td>
<td>No test data available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Boiling Point (760 mmHg)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapor Density (air = 1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Specific Gravity (H2O = 1)</strong></td>
<td>Not test data available</td>
</tr>
<tr>
<td><strong>Freezing Point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>No test data available</td>
</tr>
<tr>
<td><strong>Solubility in water (by weight)</strong></td>
<td>completely soluble in water</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Decomposition</strong></td>
<td>No test data available</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Partition coefficient, n-octanol/water (log Pow)</strong></td>
<td>No data available for this product.</td>
</tr>
<tr>
<td><strong>Evaporation Rate (Butyl Acetate = 1)</strong></td>
<td>No test data available</td>
</tr>
</tbody>
</table>

### 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**
Single dose oral LD50 has not been determined. 
For the major component(s): LD50, Rat > 5,000 mg/kg

**Dermal**
The dermal LD50 has not been determined. 
For the major component(s): LD50, Rabbit > 5,000 mg/kg

**Inhalation**
The LC50 has not been determined.

**Eye damage/eye irritation**
Solid or dust may cause irritation or corneal injury due to mechanical action.

**Skin corrosion/irritation**
Essentially nonirritating to skin.

**Sensitization**

**Skin**
For the minor component(s): Skin contact may cause an allergic skin reaction.

**Respiratory**
No relevant information found.

### Repeated Dose Toxicity

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

### Chronic Toxicity and Carcinogenicity

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

### Developmental Toxicity

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

### Reproductive Toxicity

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

### Genetic Toxicology

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

## 12. Ecological Information

### ENVIRONMENTAL 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.

**Biological oxygen demand (BOD):**

<table>
<thead>
<tr>
<th>BOD 5</th>
<th>BOD 10</th>
<th>BOD 20</th>
<th>BOD 28</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0 %</td>
<td></td>
</tr>
</tbody>
</table>

### 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. AS YOUR SUPPLIER, WE HAVE
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.

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 a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29

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
Yes
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

### Recommended Uses and Restrictions
Thickener. Binder. Film former. Processing aid. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

### Revision
Identification Number: 79540 / 1001 / Issue Date 10/01/2010 / Version: 4.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Not available</td>
</tr>
<tr>
<td>W/W</td>
<td>Weight/Weight</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists, Inc.</td>
</tr>
<tr>
<td>DOW IHG</td>
<td>Dow Industrial Hygiene Guideline</td>
</tr>
<tr>
<td>WEEL</td>
<td>Workplace Environmental Exposure Level</td>
</tr>
<tr>
<td>HAZ_DES</td>
<td>Hazard Designation</td>
</tr>
<tr>
<td>Action Level</td>
<td>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.</td>
</tr>
</tbody>
</table>

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.