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| <b>SAFETY DATA SHEET</b>                                                                                                       | Revision Date: 11/07/2016 |
|                                                                                                                                | Print Date: 12/29/2016    |
|                                                                                                                                | SDS Number: R0703379      |
| Benecel™ A4M MC-3600 cP Methylcellulose<br>™ Trademark, Ashland or its subsidiaries, registered in various countries<br>821957 | Version: 1.1              |

29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Trade name : Benecel™ A4M MC-3600 cP  
Methylcellulose  
™ Trademark, Ashland or its subsidiaries, registered in various countries

Substance name : METHYLCELLULOSE

Substance No.

### Recommended use of the chemical and restrictions on use

|                                                                                                                                                                               |                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Details of the supplier of the safety data sheet</b><br><br>Ashland<br>P.O. Box 2219<br>Columbus, OH 43216<br>United States of America<br><br>EHSProductSafety@ashland.com | <b>Emergency telephone number</b><br>1-800-ASHLAND (1-800-274-5263)<br><br><b>Regulatory Information Number</b><br>1-800-325-3751<br><br><b>Product Information</b><br>614-790-3333 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Combustible Dust :

### GHS Label element

Signal Word : Warning

Hazard Statements : May form combustible dust concentrations in air.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance / Mixture : Substance

Chemical nature : organic

**Hazardous components**

No hazardous ingredients

**SECTION 4. FIRST AID MEASURES**

- General advice : No hazards which require special first aid measures.
- If inhaled : If breathed in, move person into fresh air.  
If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
- In case of eye contact : Remove contact lenses.  
Protect unharmed eye.
- If swallowed : Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)
- Notes to physician : No hazards which require special first aid measures.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam



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- Specific hazards during firefighting : Organic dusts at sufficient concentration can form explosive mixtures in air.  
 Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : carbon dioxide and carbon monoxide  
 hydrogen chloride  
 Sodium oxides
- Specific extinguishing methods :  
 Product is compatible with standard fire-fighting agents.
- Further information : Standard procedure for chemical fires.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.  
 Avoid breathing dust.  
 Material can create slippery conditions.  
 Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust.  
 Keep in suitable, closed containers for disposal.
- Other information : Comply with all applicable federal, state, and local regulations.

## SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid dust formation.  
 Ensure all equipment is electrically grounded and bonded before beginning transfer operations.  
 The material can accumulate static charge and can therefore cause electrical ignition of flammable atmospheres.  
 Smoking, eating and drinking should be prohibited in the application area.  
 For personal protection see section 8.

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Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards.

For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: "Standard for the Prevention of Fire and Dust Explosions, from the Manufacturing, Processing and Handling of Combustible Particulate Solids".

Conditions for safe storage : No smoking.  
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No materials to be especially mentioned.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

**Engineering measures** : Provide appropriate exhaust ventilation at places where dust is formed.  
General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Eye protection : Safety glasses

Skin and body protection : Wear as appropriate:  
Safety shoes  
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Avoid breathing dust.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                        |                                       |
|----------------------------------------|---------------------------------------|
| Appearance                             | : granules, powder                    |
| Physical state                         | : solid                               |
| Colour                                 | : off-white                           |
| Odour                                  | : odourless                           |
| Odour Threshold                        | : No data available                   |
| pH                                     | : 5.0 - 8.0, 1 %(as aqueous solution) |
| Melting point/freezing point           | : No data available                   |
| Boiling point/boiling range            | : No data available                   |
| Flash point                            | : Not applicable                      |
| Evaporation rate                       | : No data available                   |
| Flammability (solid, gas)              | : No data available                   |
| Upper explosion limit                  | : No data available                   |
| Lower explosion limit                  | : No data available                   |
| Vapour pressure                        | : No data available                   |
| Relative vapour density                | : No data available                   |
| Relative density                       | : No data available                   |
| Density                                | : 0.25 g/cm <sup>3</sup>              |
| Bulk density                           | : 200 - 500 kg/m <sup>3</sup>         |
| Solubility(ies)                        |                                       |
| Water solubility                       | : soluble, Limited by viscosity       |
| Solubility in other solvents           | : No data available                   |
| Partition coefficient: n-octanol/water | : No data available                   |



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Auto-ignition temperature : 380 °C

Thermal decomposition : No data available

Viscosity  
 Viscosity, dynamic :  
 No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Dust may form explosive mixture in air.

Conditions to avoid : Keep away from heat, flame, sparks and other ignition sources.  
 UV light.  
 Exposure to sunlight.

Incompatible materials : Acids  
 Bases  
 Oxidizing agents

Hazardous decomposition products : hydrogen chloride  
 Sodium oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
 Skin contact  
 Eye Contact  
 Ingestion

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**Acute toxicity**

Not classified based on available information.

**Skin corrosion/irritation**

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks: Unlikely to cause eye irritation or injury., Product dust may be irritating to eyes, skin and respiratory system.

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Further information**

**Product:**

Remarks: No data available

**Carcinogenicity:**

**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability****Product:**

Biodegradability : Remarks: Slowly biodegradable.

Biochemical Oxygen Demand (BOD) : Biochemical oxygen demand within 5 days  
> 0 - 100 mg/g

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Additional ecological information : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

**SECTION 14. TRANSPORT INFORMATION****International transport regulations****REGULATION**

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|-----------|----------------------|---------------|--------------------|---------------|------------------------------|
|           |                      |               |                    |               |                              |



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**U.S. DOT - ROAD**

Not dangerous goods

**CFR\_RAIL\_C**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TDG\_ROAD\_C**

Not dangerous goods

**TDG\_RAIL\_C**

Not dangerous goods

**TDG\_INWT\_C**

Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

Not dangerous goods

**MX\_DG**

Not dangerous goods

**\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant

no

|                                                                                                                                |  |                           |
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

## SECTION 15. REGULATORY INFORMATION

**SARA 311/312 Hazards** : Fire Hazard

### US State Regulations

#### Pennsylvania Right To Know

CELLULOSE

254504001- 90.00 - 100.00  
5673

The identity of one or more component(s) is being withheld under business confidentiality.

#### New Jersey Right To Know

CELLULOSE

254504001- 90.00 - 100.00  
5673

The identity of one or more component(s) is being withheld under business confidentiality.

SODIUM CHLORIDE

7647-14-5 1.00 - 5.00 %

### California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : On the inventory, or in compliance with the inventory

NZIOC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

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IECSC : On the inventory, or in compliance with the inventory

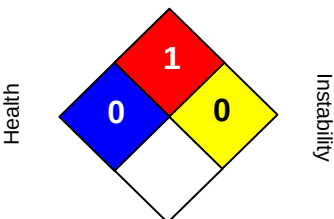
#### Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

## SECTION 16. OTHER INFORMATION

#### Further information

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| NFPA:                                                                                                                          | HMIS III:                                                                                                                                                                                                                                                                                        |               |          |                     |          |                        |          |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|---------------------|----------|------------------------|----------|
| <p>Flammability</p>  <p>Special hazard.</p> | <table border="1"> <tr> <td><b>HEALTH</b></td><td><b>0</b></td></tr> <tr> <td><b>FLAMMABILITY</b></td><td><b>1</b></td></tr> <tr> <td><b>PHYSICAL HAZARD</b></td><td><b>0</b></td></tr> </table> <p>0 = not significant, 1 = Slight,<br/>2 = Moderate, 3 = High<br/>4 = Extreme, * = Chronic</p> | <b>HEALTH</b> | <b>0</b> | <b>FLAMMABILITY</b> | <b>1</b> | <b>PHYSICAL HAZARD</b> | <b>0</b> |
| <b>HEALTH</b>                                                                                                                  | <b>0</b>                                                                                                                                                                                                                                                                                         |               |          |                     |          |                        |          |
| <b>FLAMMABILITY</b>                                                                                                            | <b>1</b>                                                                                                                                                                                                                                                                                         |               |          |                     |          |                        |          |
| <b>PHYSICAL HAZARD</b>                                                                                                         | <b>0</b>                                                                                                                                                                                                                                                                                         |               |          |                     |          |                        |          |

#### NFPA Flammable and Combustible Liquids Classification

Not applicable

#### Full text of H-Statements referred to under sections 2 and 3.

Sources of key data used to compile the Safety Data Sheet

Ashland internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the

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information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

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RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System