SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1. Identification
Product identifier

Product number 635498
Millipore Ref. HAWP09000
Product name MCE .45UM WH PL 90MM 100/PK

Relevant identified uses of the substance or mixture and uses advised against
Identified uses Reagent for research and development

Details of the supplier of the safety data sheet
Company EMD Millipore Corporation | 400 Summit Drive | Burlington | Massachusetts 01803 | United States of America | General Inquiries: +1 800-645-5476 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification
GHS Classification
Flammable solid, Category 1, H228
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling
Hazard pictograms

Signal Word
Danger
Hazard Statements
H228 Flammable solid.

Precautionary Statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Other hazards
None known.

SECTION 3. Composition/information on ingredients
Chemical nature Contains nitrocellulose.

Hazardous ingredients
Chemical name (Concentration)
CAS-No.
cellulose nitrate (>= 70 % - < 90 %)
9004-70-0
Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures
Description of first-aid measures

Inhalation
After inhalation: fresh air.

Skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact
After eye contact: rinse out with plenty of water. Remove contact lenses.

Ingestion
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Risk of methemoglobin formation.

**Indication of any immediate medical attention and special treatment needed**
No information available.

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**SECTION 5. Fire-fighting measures**

**Extinguishing media**

*Suitable extinguishing media*
- Water, Foam, Carbon dioxide (CO2), Dry powder

*Unsuitable extinguishing media*
- For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**
- Combustible.
- Spontaneous ignition at elevated temperatures.
- Development of hazardous combustion gases or vapors possible in the event of fire.
  - Fire may cause evolution of:
    - nitrogen oxides, nitrous gases

**Advice for firefighters**

*Special protective equipment for fire-fighters*
- Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*
- Suppress (knock down) gases/vapors/mists with a water spray jet. Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

*Advice for non-emergency personnel:*
- Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

*Advice for emergency responders:*
- Protective equipment see section 8.

**Environmental precautions**
- Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling
Observe label precautions.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Conditions for safe storage, including any incompatibilities
Tightly closed. Dry. Keep away from heat and sources of ignition. Keep away from direct sunlight.

Performing regular visual inspections of membranes and keeping accurate records of recommended shelf life can reduce the risk of membrane deterioration. Shelf-life limited when kept above +25°C. Verify on a regular basis expiry dates of stored materials, housekeeping, temperature and humidity. Designated "Flammable Material" storage areas must be engineered according to local regulations. Rotate stock. Improper storage conditions can accelerate deterioration of the membrane in advance of expiration date. Storage humidity: 30 - 70 %. Perform regular visual inspections of stored materials to ensure early stages of deterioration does not advance. Early stages of deterioration: Amber or yellow discoloration. Advanced stages of deterioration: visible liquid or solid brown resin. If membrane shows visual indications of deterioration, safely dispose of product according to local regulations.

Storage under improper conditions could lead to the membrane self-decomposing at ambient temperatures with the formation of nitrous vapors or self ignition. Observe the expiration date!

Advice on common storage
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)
Contains no substances with occupational exposure limit values.

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
**Individual protection measures**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

**Hygiene measures**
Change contaminated clothing. Wash hands after working with substance.

**Eye/face protection**
Safety glasses

**Hand protection**

<table>
<thead>
<tr>
<th></th>
<th>full contact</th>
<th>splash contact</th>
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</thead>
<tbody>
<tr>
<td>Glove material</td>
<td>Nitrile rubber</td>
<td>Nitrile rubber</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>0.11 mm</td>
<td>0.11 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>480 min</td>
<td>480 min</td>
</tr>
</tbody>
</table>

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Other protective equipment:**
Protective clothing

**Respiratory protection**
Required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

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**SECTION 9. Physical and chemical properties**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid</td>
</tr>
<tr>
<td>Color</td>
<td>colored</td>
</tr>
</tbody>
</table>
### Odor
No strong odor known.

### Odor Threshold
No information available.

### pH
No information available.

### Melting point
No information available.

### Boiling point
No information available.

### Flash point
No information available.

### Evaporation rate
No information available.

### Flammability (solid, gas)
The substance or mixture is a flammable solid with the category 1.

### Lower explosion limit
No information available.

### Upper explosion limit
No information available.

### Vapor pressure
No information available.

### Relative vapor density
No information available.

### Density
No information available.

### Relative density
No information available.

### Water solubility
No information available.

### Partition coefficient: n-octanol/water
No information available.

### Autoignition temperature
No information available.

### Decomposition temperature
No information available.

### Viscosity, dynamic
No information available.

### Explosive properties
Not classified as explosive.

### Oxidizing properties
none
SECTION 10. Stability and reactivity

Reactivity
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability
Product is sensitive to light and moisture. Prolonged exposure to air may cause discoloration.

Possibility of hazardous reactions
Risk of ignition or formation of inflammable gases or vapors with:
Oxidizing agents, Bases, Strong acids

Conditions to avoid
Heating (decomposition). Exposure to sunlight.

Incompatible materials
no information available

Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects
Likely route of exposure
Eye contact, Skin contact, Ingestion
Carcinogenicity
Carcinogen classifications of IARC, NTP, California proposition 65 for Ethanol CAS 64-17-5 apply to beverage use only. This product is NOT intended for this use.

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity
IARC
No ingredient 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 on OSHA’s list of regulated carcinogens.

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

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

Further information
After uptake:
Risk of methemoglobin formation.
However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

Components

*cellulose nitrate*
No information available.

SECTION 12. Ecological information

Ecotoxicity
No information available.

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
Discharge into the environment must be avoided.

Components

*cellulose nitrate*
No information available.
SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

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<th>UN number</th>
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<tbody>
<tr>
<td>Proper shipping name</td>
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<tr>
<td>Class</td>
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</tr>
<tr>
<td>Packing group</td>
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<tr>
<td>Environmentally hazardous</td>
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Air transport (IATA)

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<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmentally hazardous</td>
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</tr>
<tr>
<td>Special precautions for user</td>
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</tbody>
</table>

Sea transport (IMDG)

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<tbody>
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<tr>
<td>Class</td>
<td>4.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
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<tr>
<td>Environmentally hazardous</td>
<td>--</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>yes</td>
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<tr>
<td>EmS</td>
<td>F-A S-I</td>
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SECTION 15. Regulatory information

United States of America

**SARA 313**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 302**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Clean Water Act**
The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:

*Components*
sodium dodecyl benzenesulfonate

The following Hazardous Chemicals are listed under the U.S. Clean Water Act, Section 311, Table 117.3:

*Components*
sodium dodecyl benzenesulfonate

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**DEA List I**
Not listed

**DEA List II**
Listed

*Components*
acetone 67-64-1

**US State Regulations**

**Massachusetts Right To Know**

*Components*
cellulose nitrate

**Pennsylvania Right To Know**

*Components*
cellulose nitrate

**New Jersey Right To Know**

*Components*
cellulose nitrate

**California Prop 65 Components**
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.
SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 635498  Version 1.3
Product name MCE .45UM WH PL 90MM 100/PK

Notification status
TSCA: All components of the product are listed in the TSCA-inventory.
DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms

Signal Word
Danger

Hazard Statements
H228 Flammable solid.

Precautionary Statements
Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Response
P370 + P378 In case of fire: Use powder for extinction.

Full text of H-Statements referred to under sections 2 and 3.
H228 Flammable solid.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 04/11/2019
The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

The life science business of Merck operates as MilliporeSigma in the US and Canada
SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 635498
Product name MCE .45UM WH PL 90MM 100/PK

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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