Sonneborn, LLC urges the recipient of this Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents and contractors of the information of this sheet, (2) furnish a copy to each of your customers for the product and (3) request your customers to inform their employees and customers as well.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation
Microcrystalline Wax

Use of substance/preparation:
Microcrystalline waxes typically used as a blending base in a variety of applications including cosmetic, pharmaceutical, food and general industrial.

Company identification
Sonneborn, LLC
600 Parsippany Road, Suite 100
Parsippany, NJ 07054 USA

Emergency telephone number
Chemtrec (24hrs): 800-424-9300
Sonneborn: 724-756-2210

2. HAZARDS IDENTIFICATION

GHS Classification: Not classified as dangerous under EC/GHS-criteria
Human Health Hazards: None
Physico-chemical and environmental hazards and effects: None

HMIS RATING USA
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>PPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% BY WEIGHT</th>
<th>CAS #</th>
<th>HAZARD</th>
<th>DANGER SYMBOL(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microcrystalline Wax</td>
<td>100</td>
<td>63231-60-7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Swallowing
WHEN MOLTEN ONLY (molten product can cause thermal burns). Obtain medical attention immediately. This is not a toxic substance.
5. FIRE-FIGHTING MEASURES

Flash Point: \(>93.4°C \ (200°F)\) PMCC ASTM D93

NFPA CLASSIFICATION USA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Special provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Extinguishing media

Suitable: Treat as an oil fire:
- dry chemical
- carbon dioxide (in case of small fires)
- water fog
- foam

Unsuitable: Do not use water jet. Oil will float on water and can spread any fire.

Special firefighting procedures

Do not direct a solid stream of water or foam into burning material; this may cause spattering and spread the fire.

If a rail or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

Special protective equipment for firefighters

Self-contained breathing apparatus.

Unusual fire and explosion hazards

Following products may be produced during a fire: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES
SAFETY DATA SHEET

MULTIWAX® W-445 Microcrystalline Wax

Personal precautions
Wear suitable protective equipment.

Environmental precautions
Avoid runoff to sewers or waterways. Dike area of spill to prevent spreading and pump liquid to salvage tank. Waste: avoid washing into watercourses. Use methods consistent with local regulations or incinerate.

Methods for cleaning up
Dike to contain spill. Absorb on inert material such as sand, earth, vermiculite. After cooling, scrape and/or shovel material. Stop the leak if it can be done without risk. Floor may be slippery; use care to avoid falling.

7. HANDLING AND STORAGE

HANDLING
Do not handle at temperatures >+40°C, unless wearing appropriate protective equipment.

Ventilation
General (mechanical) room ventilation is expected to be satisfactory for use at room temperature.

STORAGE
Storage requirements
Keep away from heat, sparks and flame. Do not store at temperatures: >+40°C without proper safety review of storage equipment. Store protected from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES
No exposure limits have been established.

OCCUPATIONAL EXPOSURE CONTROLS
Respiratory protection
None expected to be needed.

Hand protection/protective gloves
Wear oil resistant gloves. WHEN MOLTEN ONLY: wear gloves impervious to this material and able to resist and protect employees from the elevated temperature.

Eye protection
WHEN MOLTEN ONLY: Face shield or chemical splash goggles in case of splashing.

Skin protection
WHEN MOLTEN ONLY: Wear protective clothing, such as long sleeves to minimize skin contact.

Environmental Exposure Controls:
None expected to be needed.
SAFETY DATA SHEET

MULTIWAX® W-445 Microcrystalline Wax

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State: Solid
Color: White to yellow
Odor: None or Mild Petroleum
Odor Threshold: N/A

Important health, safety and environmental information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>No Data</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No Data</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No Data</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;93.4°C (200°F) Method: PMCC, ASTM D93</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;0.1 kPa at 20°C</td>
</tr>
<tr>
<td>Density</td>
<td>&gt;0.80 g/cm³ at 100°C</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Solubility in organic solvents</td>
<td>Soluble</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>13 – 18 mm²/s at 100°C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 230°C</td>
</tr>
<tr>
<td>PH</td>
<td>N/A</td>
</tr>
<tr>
<td>Specific gravity (H₂O=1)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Partitioning coefficient</td>
<td>log POW: &gt;6 This product is soluble in oil.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Percent volatiles</td>
<td>Nil</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No Data</td>
</tr>
<tr>
<td>Melting Point</td>
<td>54 - 102°C unless specified below</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions/Materials to avoid: Extreme temperature and direct sunlight/ultraviolet light and strong oxidizing agents.

Hazardous combustion products
Burning can produce the following combustion products: Oxides of carbon and Soot

Hazardous polymerization: Will not occur.
11. TOXICOLOGICAL INFORMATION

GENERAL
No evidence of harmful effects from available information.

12. ECOLOGICAL INFORMATION

This product is stable in water, and can be mechanically separated from water. The water may be suitable for disposal in a biological waste water treatment plant.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with appropriate Federal, State and local regulations or incinerate.

14. TRANSPORT INFORMATION

ADR/RID
(when transported at <100°C ) This product is not regulated by ADR.

When transported above >100°C – UN3257 ELEVATED TEMPERAURE LIQUIDS, N.O.S. (9), III, Class: 9 (M9), UN No.: 3257, Packaging Group: III, Hazard No.: 99, Label: 9, Technical Description: Microcrystalline Wax

USA- This product is not regulated by DOT. Freight Description Road: 65 Petroleum Oil, N.O.I.B.N.

IMDG/ICAO/IATA
Not regulated.

FORBIDDEN BY AIR @ >= 100°C

TDG-CANADA
This product is not regulated by TDG.

15. REGULATORY INFORMATION

EC/GHS classification
According to EC/GHS regulations this product is not classified or labeled

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)
Chemical name: Microcrystalline Wax CAS#: 63231-60-7 New Jersey TS Number

EPA Hazard Categories (SARA 311, 312): None

WHMIS Classification: This product is not hazardous.
Chemical Inventory

**Canada:** The ingredients of this product are on the DSL.
**Europe:** The ingredients of this product are on the EINECS inventory.
**United States:** The ingredients of this product are on the TSCA inventory.
**Australia:** The ingredients of this product are on the AICS inventory.
**Japan:** The ingredients of this product are on the ENCS inventory.
**Philippines** This product is on the Philippines Chemical Inventory (PICC)
**Korea** This product is on the Korea Chemical Inventory (KECI)
**China** This product is on the China Chemical Inventory (IECSC)
**New Zealand** This product is on the New Zealand Chemical Inventory (NZIoC)
**Taiwan** This product is on the Taiwan Chemical Substance Inventory (TCSI)

16. OTHER INFORMATION

**Recommended uses and restrictions**
Please consult the product and/or application information bulletins for this product.

**Further information, Europe**
Where appropriate, use CE approved personal protection equipment.

This Safety Data Sheet conforms to EC Directive 1907/2006 and amendments.

The opinions expressed herein are those of qualified experts within Sonneborn, LLC. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of Sonneborn, LLC it is the user’s obligation to determine the conditions of safe use of the products.