1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: Visarin® GP 109F Carrageenan

Other means of identification

Product Code(s): 1253-B

Synonyms: Carrageenan, Chondrus crispus, Carrageenan (INCI name), Irish moss, Chondrus extract, Seaweed flour

Recommended use of the chemical and restrictions on use

Recommended Use: Foodstuff application

Restrictions on Use: See section 16 for more information

Manufacturer Address

Dharma Trading Co.
1805 S. McDowell Blvd. Ext.
Petaluma, CA 94954
(707) 283-0390 (General Information)
service@dharmatrading.com (General Information)

Emergency telephone number

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - all other countries)

(207) 564-3200 (FMC Plant - Rockland, ME)
(303) 595-9048 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
**Viscarin® GP 109F Carrageenan**

**GHS Label elements, including precautionary statements**

**EMERGENCY OVERVIEW**

**Warning**

**Physical Hazards**
MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR

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**Hazards not otherwise classified (HNOC)**
Aspiration or inhalation of this product could cause chemical pneumonitis. Excessive inhalation of dust can mechanically impede respiration. Due to the hygroscopic properties of the gums, they can form a paste or gel in the airway.

**Other Information**
No information available.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrageenan</td>
<td>9000-07-1</td>
<td>100</td>
</tr>
</tbody>
</table>

* The exact percentage composition has been withheld as a trade secret.

Synonyms are provided in Section 1.

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### 4. FIRST AID MEASURES

**Eye Contact**
Flush eyes with water as a precaution. Get medical attention if eye irritation develops or persists.

**Skin Contact**
Wash with water and soap as a precaution.

**Inhalation**
Remove person to fresh air. If breathing is difficult or if discomfort occurs and persists, obtain medical attention.

**Ingestion**
Never give anything by mouth to an unconscious person. Drink plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects, both acute and delayed**
Difficulty breathing. Cough.

**Indication of immediate medical attention and special treatment needed, if necessary**
Aspiration or inhalation of this product could cause chemical pneumonitis. Treatment is symptomatic and supportive.

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### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media**
None known.

**Specific Hazards Arising from the Chemical Explosion data**
Avoid dust formation. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Sensitivity to Mechanical Impact**
Not sensitive.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.). Avoid breathing dust. Powder may become slippery when wet. For personal protection see section 8.

Other
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Methods for cleaning up
Sweep, vacuum or shovel into suitable containers for disposal. Nonsparking tools should be used. Washdown water is not recommended. Powder may become slippery when wet.

7. HANDLING AND STORAGE

Handling
Handle in accordance with good industrial hygiene and safety practice. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powdered material can build static electricity when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmosphere. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected.

Storage
Store at less than 25°C, in tightly closed containers. Keep out of direct sunlight. Store in dry environment away from heat and sources of ignition, i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Do not store with strong smelling materials.

Incompatible products
Oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls
Engineering measures
It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in the handling of this product contain explosion relief vents or an explosion suppression or an oxygen-deficient environment. Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment
Eye/Face Protection
Safety glasses.

Skin and Body Protection
Minimize skin contamination by following good industrial hygiene practices. Use gloves if extended exposure is anticipated.

Hand Protection
Protective gloves.
Viscarin® GP 109F Carrageenan

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

General information
Protective engineering solutions should be implemented and in use. These recommendations apply to the product as supplied. If the product is used in mixtures, contact an appropriate protective equipment supplier or industrial hygienist for more information.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dry powder, Free flowing powder</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight marine</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7.0 - 10.5 (1.5 % solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>Approximately 1 g/cc @ 20°C (H2O = 1)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>~1.0</td>
</tr>
<tr>
<td>Water solubility</td>
<td>10% maximum (% by weight)</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
</tr>
<tr>
<td>Kst</td>
<td>&gt;0 bar m/s</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Possibility of Hazardous Reactions</td>
<td>None under normal processing.</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Dust formation. Excessive heat. Humid air. Sparks.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizing agents. Strong acids.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Burning produces obnoxious and toxic fumes: Sulfur oxides.</td>
</tr>
</tbody>
</table>
11. TOXICOLOGICAL INFORMATION

Product Information

Sensitization
Not expected to be sensitizing based on the components.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrageenan (9000-07-1)</td>
<td>5400 mg/kg (Rat)</td>
<td>&gt;2000 mg/kg (Rabbit)</td>
<td>&gt;0.93 mg/l (4h) (Rat)*</td>
</tr>
</tbody>
</table>

* No mortality was observed at the maximum attainable concentration.

Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity
Product does not present a chronic toxicity hazard based on known or supplied information.

Mutagenicity
No known mutagenic or teratogenic effects.

Carcinogenicity
Contains no ingredient listed as a carcinogen.

Reproductive toxicity
This product does not contain any known or suspected reproductive hazards.

STOT - single exposure
None known.

STOT - repeated exposure
None noted in chronic animal studies.

Aspiration hazard
Aspiration may cause chemical pneumonitis. Excessive inhalation of dust can mechanically impede respiration.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated. Carrageenan is an extract of seaweeds of the class Rhodophyceae (red seaweeds).

Persistence and degradability
Expected to biodegrade, based on component information.

Bioaccumulation
Bioaccumulation is unlikely.

Mobility
No information available.

Other Adverse Effects
None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT
NOT REGULATED
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Acute health hazard No
Chronic health hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations

International Inventories
A food, food additive, drug, cosmetic, or device, when manufactured, processed or distributed in commerce for use as a food, food additive, drug, cosmetic, or device is not subject to the notification requirements of 40 CFR 720.

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrageeanian 9000-07-1 (100)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Mexico - Grade Minimum risk, Grade 0

16. OTHER INFORMATION
Viscarin® GP 109F Carrageenan

NFPA
Health Hazards 1

Flammability 1

Instability 0

Special Hazards -

HMIS
Health Hazards 1

Flammability 1

Physical hazard 0

Personal Protection X

*Indicates a chronic health hazard.

Revision date: 2015-05-29
Revision note: Format Change

Disclaimer
Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By:
FMC Product Stewardship

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End of Safety Data Sheet