



Maple Biotech Pvt. Ltd.

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MATERIAL SAFETY DATA SHEET

Modified Cellulose Gum

Croscarmellose Sodium

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EU Directive, 2001/58/EC and other regulatory requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Croscarmellose Sodium; Modified cellulose gum

CHEMICAL FAMILY: Cellulose Derrivative

MOLECULAR FORMULA: $[C_6H_7O_2(OH)_v(OCH_2COONa)_w(OCH_2COOH)_y(OCH_2COO)_z]_x$

SYNONYM(S): Internally Cross-linked Sodium Carboxymethylcellulose

BRAND NAME(S): Cel-Ca-Dissol

GENERAL USE: Disintegrant/Dispersant for dietary supplement tablets and capsules.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS#</u>	<u>EC Class</u>
Modified cellulose gum	74811-65-7	Not classified as hazardous

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS:

- Off-white, free-flowing, odorless powder.
- Accumulation of overhead settled dust may form explosive concentrations in air when disturbed and dispersed.

POTENTIAL HEALTH EFFECTS: Expected to be minimally irritating to the eyes and skin.

4. FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

INGESTION: Drink plenty of water. Never give anything by mouth to an unconscious



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person. If any discomfort persists, obtain medical attention.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: Accelerate Modified Cellulose Gum is expected to have very low toxicity. Treatment is symptomatic and supportive.

5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: Not applicable

FLAMMABLE LIMITS: Not applicable

AUTOIGNITION TEMPERATURE: Not available

EXTINGUISHING MEDIA: Water

FIRE / EXPLOSION HAZARDS: As with many organic materials, excessive accumulation of dust on overhead structures may produce explosive concentrations when disturbed and dispersed by a small explosion that shakes down accumulated dust and causes, momentarily, an ignitable concentration.

FIRE FIGHTING PROCEDURES: For fires involving this material, do not enter any enclosed or confined fire space without wearing full protective clothing and self-contained breathing apparatus (SCBA) approved for firefighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.

HAZARDOUS DECOMPOSITION PRODUCTS: None known

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Maintain good housekeeping practices to minimize accumulation of settled dust, especially on overhead surfaces. Sweep up the spilled material and dispose of in accordance with the waste disposal method outlined in Section 13, "Disposal Considerations" below.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Use local exhaust or general dilution ventilation to control exposure to dust. Always use safe lifting techniques when manually moving containers, especially when shipping containers weighing more than 50 pounds (22.7 kg). To protect quality, store in a tight container in a dry place, at room temperature (approximately 25°C). Pallets should be stacked in a stable manner. Maintain adequate clearance from structural members and sprinklers; NFPA and U.S. OSHA state a minimum of 18 inches (45.7 cm) clearance shall be maintained between the top of storage and the ceiling sprinkler deflectors.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Whenever airborne dust concentrations are high, appropriate protective eyewear, such as monogoggles, should be worn to prevent eye contact.

RESPIRATORY: Whenever dust, in the worker's breathing zone, cannot be controlled with ventilation, workers should wear respirators which are approved for protection against airborne dust (by U.S. NIOSH/MSHA, EU CEN or comparable certification organization).

PROTECTIVE CLOTHING: No special clothing is required.

GLOVES: No special gloves are required.

COMMENTS:

EXPOSURE LIMITS:

None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Odorless

APPEARANCE: Off-white, free-flowing powder

pH: (In solution) 5.0 - 7.0 (1% solids dispersion)

PERCENT VOLATILE: Not more than 6% water, by weight

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: (Air = 1): Not applicable

BOILING POINT: Not applicable

MELTING POINT: Not applicable

SOLUBILITY IN WATER: (% by weight) 1 - 10%

EVAPORATION RATE: (Butyl Acetate = 1): Not applicable

DENSITY: (Bulk) (H₂O=1) Approx 0.4 g/cc

COEFF. OIL/WATER: (K_{ow}) Not applicable

OXIDIZING PROPERTIES: Not applicable

COMMENTS:

EXPLOSIVE PROPERTIES : Not applicable

FAT SOLUBILITY : Not available

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: None known

STABILITY: Stable



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POLYMERIZATION: Will not occur

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Minimally irritating (rabbit)

SKIN EFFECTS: Minimally irritating (rabbit)

Primary Irritation Index = 0.1/8.0

DERMAL LD₅₀: >2 g/kg (rabbit)

ORAL LD₅₀: >5050 mg/kg (rat)

INHALATION LC₅₀: >0.13 mg/L/4 hr. (rat) (maximum attainable concentration, no mortality)

SENSITIZATION: (Skin) Non-sensitizing (guinea pig)

ACUTE EFFECTS FROM OVEREXPOSURE: No significant hazard in animal toxicity tests.

CHRONIC EFFECTS FROM OVEREXPOSURE: Cel-Ca-Dissol Croscarmellose Sodium, a similar product, was negative (non-mutagenic) in the Ames test, and did not induce chromosome aberrations in rats. A 90-day animal study showed no adverse effects when administered in the diet. No adverse human effects known.

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: ACGIH: Not listed

COMMENTS: No data available for this product. The data presented above are based on a similar product, Cel-Ca-Dissol Croscarmellose Sodium.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:

No data available for the product; however, it is not expected to have significant environmental effects.

ECOTOXICOLOGICAL INFORMATION:

No data available for the product; however, no significant effects on aquatic organisms are expected.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: No special disposal methods are suggested. It is the user's responsibility to comply with all applicable local, state, and federal laws, rules,



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regulations and standards.

14. TRANSPORT INFORMATION

COMMENTS:

U.S. Dot : Not listed in Title 49 of the U.S. Code of Federal Regulations as a hazardous material.

Shipping Name : National Motor Freight Classification Item 156200, plastic materials, powder.

IATA: Not dangerous goods

UN (IMO/IMDG) : Not applicable

MARPOL Designation : None

Canada (TDG) : Not applicable

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 311 HAZARD CATEGORIES (40 CFR 370): None

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370): The threshold planning quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs. This product contains the following ingredients with a TPQ of less than 10,000 lbs.: None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372): This product does not contain any toxic chemicals subject to the reporting requirements of Section 313, Title III of the SARA (Superfund Amendments and Reauthorization Act) of 1986.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY (40 CFR 710, SUBPART B): Yes (as carboxymethyl cellulose)

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Not a controlled product under the Canadian Workplace Hazardous Materials Information System (WHMIS).

GENERAL COMMENTS:

EU EINECS No.

cellulose 232-674-9

sodium hydroxide 215-185-5

monochloroacetic acid 201-178-4

Note: Under the EINECS reporting guidelines, the reactants are reportable; the post-reacted natural polymer is not reportable.

EU Symbols : Not classified as hazardous.

EU Risk Phrases : Not classified as hazardous.

EU Safety Advise Phrases : Not classified as hazardous.



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NFPA RATING

HEALTH: 0
FLAMMABILITY: 1
REACTIVITY: 0
SPECIAL: None

NFPA - Degree of Hazard Code:

4 = Extreme

3 = High

2 = Moderate

1 = Slight

0 = Insignificant

NFPA = National Fire Protection Association

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