

GUARAN CHEMICALS PRIVATE LIMITED

Factory and Registered office at Hisar Road, Siwani, Distt. Bhiwani-127046, Haryana-India

Telephone: Off: 0091 1255 277026, Fax # 0091 1255 277126

CIN # U51100DL2011PTC228398

E-mail: info@guaranchem.com

MATERIAL

HANDLING AND SAFETY DATA SHEET REF: 91/155/EEC AND AMENDMENTS WITH RESPECTIVE IMPLEMENTATIONS ORGANIC GUAR GUM POWDER (FOOD & FEED GRADES)

1.0 SUBSTANCE IDENTIFICATION

- 1.1 Commercial Product Name : Guar Gum Powder
CAS# : 9000-30-0
- 1.2 Chemical characterization : ORGANIC Guar gum powder - obtained from the seed of the legume *Cyamopsis tetragonolobus*, an annual plant that grows mainly in arid and semiarid regions of the Indian subcontinent.
- 1.3 Molecular weight : $1-2 \times 10^6$ DALTONS
- 1.4 FOR USE IN FOOD : Not Applicable. To be used in Industrial Application
- 1.5 Manufactured by : GUARAN CHEMICALS PVT. LIMITED, INDIA

2.0 COMPOSITION

- 2.1 D - mannosyl (1.8), D-galactosyl (1.0). Guar, the functional polysaccharide in guar gum is a chain of : (1 --> 4)-linked D-mannopyranosyl units with single D-galactopyranosyl units connected by (1 --> 6) linkages to, on the average, every second main chain unit. The primary structure consist of a mannan backbone.
- 2.2 Impurities : No hazardous impurities

3.0 HAZARDS IDENTIFICATION

- 3.1 Organic Guar gum is not classified as a Non-Dangerous Substance within the definitions of EC and USFDA Directive.
- 3.2 Long-term exposure to skin may cause chapping and irritation.
- 3.4 Excessive inhalation of dust may cause slight irritation and can impede respiration owing to the hydrophilic nature of the gum which can form a gel in the airway.

4.0 FIRST AID MEASURES

- 4.1. After contact with eyes, flush immediately with plenty of water. If irritation develops, seek medical advice.
- 4.2. After contact with skin, wash with warm soapy water. If any irritation persists, seek medical advice.
- 4.3 If large quantities of dust are inhaled, keep the airway open. Move immediately to fresh air and seek medical advice.
- 4.4 If Guar gum powder is swallowed, drink plenty of water.
- 4.5 No special precautions needed by those giving First Aid.

5.0 FIRE FIGHTING MEASURES

- 5.1 Guar Gum will burn when in contact with flame but self-extinguishes when the flame is removed.
- 5.2 Water, foam or CO₂ extinguishers may be used on fires involving Guar Gum.

5.3 The auto-ignition temperature is above 200^o C.

5.4 There is a risk of dust explosion if fine particles mix with air.

6.0 ACCIDENTAL RELEASE MEASURES

- 6.1 Recover dry product by vacuum or brush and shovel.
- 6.2 Do not flush affected area with water **unless absolutely necessary**. Wetted surfaces can become extremely slippery. If wetted, flush thoroughly with water until all product is removed.

7.0 HANDLING AND STORAGE

- 7.1 Manufacturing date + 24 months under dry, cool (25+/-2^oC) conditions of storage.
- 7.2 If required to store for a period of additional 12 months, the recommended storage temperature is <10^oC.
- 7.3 Avoid the formation of dust and where necessary use mechanical dust extraction.

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Respiratory protection: A dust respirator is recommended if handling the product generates concentrations of dust.
- 8.2 Hand protection: Not normally necessary but standard work gloves recommended.

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- 8.3 Eye protection : The use of goggles is recommended if there are heavy dust concentrations.
8.4 Other : No special precautions necessary.

9.0 PHYSICAL AND CHEMICAL PROPERTIES – ORGANIC GUAR GUM POWDER

- 9.1 Appearance: Beige-white or tan-colored powder or fine granulation
9.2 Odour: Slight.
9.3 pH: A 1% aqueous solution is approx neutral.
9.4 Boiling Point: Not applicable.
9.5 Freezing Point: Not applicable.
9.6 Bulk density: 550-850 kg/m³ (depending upon grade).
9.7 Vapor pressure: Not applicable.
9.8 Solubility in water: Soluble but forms very viscous solutions which become pasty at concentrations greater than 5%

10.0 STABILITY AND REACTIVITY

- 10.1 Chemical stability : Guar gum is stable if stored under cool, dry conditions.
10.2 Hazardous decomposition products: Thermal decomposition may produce carbon monoxide and dioxide.
10.3 Hazardous polymerization : Will not occur.
10.4 Incompatible with : Strong oxidising agents.

11.0 TOXICOLOGICAL INFORMATION

- 11.1 Organic Guar gum is widely used in food and in feed as a thickener, stabilizer, emulsifier and binder.
11.2 LD₅₀ , Oral, Rat : > 5000 mg/kg

12.0 ECOLOGICAL INFORMATIONS

- 12.1 Guar gum is biodegradable in waste treatment facilities when well diluted.
12.2 BOD₅ approx 200 mg O₂/g
12.3 COD approx 1600 mg O₂/g

13.0 DISPOSAL CONSIDERATIONS

- 13.1 Dispose in landfill or flush well-diluted wet materials to drain with large amount of water.

14.0 TRANSPORT INFORMATION

- 14.1 No special requirements, and no restrictions on transportation by land, sea or air as per IATA rules.

15.0 REGULATORY INFORMATION

- 15.1 Guar gum is an EC and USFDA permitted Food and Feed Additive.

16.0 ADDITIONAL INFORMATION

- 16.1 See Organic Guar Gum Powder Technical Data Sheet for the corresponding product.
16.2 This Handling and Safety Data Sheet is based upon a limited review of Guaran Chemicals Pvt. files and standard toxicological handbooks.
