

MATERIAL SAFETY DATA SHEET

Xanthan Gum
MSDS No.0030

SECTION-1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product Name	ECHO GUM
END USE	Food, Cosmetic material
Chemical Name	Xanthan Gum
Chemical Family	Polysaccharide gum
Chemical Structure	$\left[\begin{array}{c} \text{--- Glucose --- Glucose ---} \\ \\ \text{Mannose} \\ \\ \text{Glucuronic acid (Na,K,1/2Ca)} \\ \\ \text{Mannose} \end{array} \right]_n$
Company name	Dainippon Sumitomo Pharma Co., Ltd.
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Division in charge	Food & Specialty Products
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Date Prepared	2006.8.31

SECTION-2. COMPOSITION/INFORMATION ON INTEGRDIENTS	
Component	Xanthan gum
CAS. No.	11138-66-2

SECTION-3. HAZARDS IDENTIFICATION	
Emergency Overview	
Appearance and Odor	White to tan powder with slight odor WARNING! COMBUSTIBLE DUST
POTENTIAL HEALTH EFFECTS	
LIKEL ROUTES OF EXPOSURE	Skin contact and inhalation
Eye Contact	No more than slightly irritating based on toxicity studies. The dry powder may cause foreign body irritation in some individuals.
Skin Contact	No more than slightly toxic or slightly irritating based on toxicity studies. Prolonged contact with the dry powder may cause drying or chapping of the skin.
Inhalation	Inhalation of the dust may cause coughing and sneezing.
Ingestion	Is not toxic if swallowed based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. Refer to Section 11 for toxicological information.

SECTION-4. FIRST AID MEASURES	
If In Eyes or on Skin	Immediate first aid is not likely to be required. However, this material can be removed with water. Wash heavily contaminated clothing before reuse.
If Inhaled	Immediate first aid is not likely to be required. However, if symptpms occur, remove to fresh air. Remove material from eyes, skin and clothing.
If Swallowed	Immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice. Wash heavily contaminated clothing before reuse.

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MSDS No.0030

SECTION-5. FIRE-FIGHTING MEASURES

Flash Point	Not applicable
Hazardous Products of Combustion	Carbon dioxide, Carbon monoxide
Extinguishing Media	In case of fire, use water, dry chemical, CO ₂ , or alcohol foam.
Unusual Fire and Explosion Hazards	This material as normally packaged and handled can contain sufficient fines to form an explosive mixture if dispersed in a sufficient quantity of air. Surfaces that may be covered with this product will become extremely slippery upon application of water.
Fire Fighting Equipment	Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

SECTION-6. ACCIDENTAL RELEASE MEASURES

In case of spill, do not blow material. Use vacuum equipment designed specifically for handling combustible dusts.
NOTE-The use of water wash down is not recommended unless the spilled material is already wet. Wet material on a walking surface will be extremely slippery. Wet spills should be thoroughly flushed with water until non-slippery. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.

SECTION-7. HANDLING AND STORAGE

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE INDUSTRIAL HYGIENE AND SAFETY PRACICES. THESE PRACTICES INCLUDE AVOIDING UNNECESSARY EXPOSURE AND REMOVAL OF MATERIAL FROM EYES, SKIN, AND CLOTHING.

Keep away from heat, sparks and flame. Avoid creating dust cloud in handling transfer and clean up.
Store in a cool(50-8° F), dry(<65% relative humidity) place in a sealed container.

SECTION-8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection	This product does not cause significant eye irritation or eye toxicity requiring special protection. Use good industrial practice to avoid eye contact.						
Skin Protection	Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing protective glove is recommended. Wash hands and contaminated skin thoroughly after handling.						
Respiratory Protection	Avoid breathing dust. Use NIOSH approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacture to determine appropriate type equipment for a give application. Observe respirator use limitations specified by NIOSH or the manufacturer. Respiratory protection programs must comply with 29 C.F.R. 1910.134.						
Ventilation	Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). The use of local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment.						
Airborne Exposure Limits	<p>OSHA has not established specific exposure limits for this material. However, OSHA has established limits for particulates not otherwise regulated (PNOR) which are the least stringent exposure limits applicable to dusts.</p> <table> <tr> <td>OSHA PEL</td><td>ACGIH TLV</td></tr> <tr> <td>15mg/m³(total dust)8-hr TWA</td><td>not established</td></tr> <tr> <td>5mg/m³(respirable)8-hr TWA</td><td>not established</td></tr> </table>	OSHA PEL	ACGIH TLV	15mg/m ³ (total dust)8-hr TWA	not established	5mg/m ³ (respirable)8-hr TWA	not established
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5mg/m ³ (respirable)8-hr TWA	not established						

SECTION-9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White to tan powder.
pH	pH of a 1% solution is approximately neutral.
Solubility in water	Soluble, forming viscous solutions, becoming a paste at concentrations greater than 5% approx
NOTE	These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

SECTION-10. STABILITY AND REACTIVITY

Stability	Product is stable under normal conditions of storage and handling. Store in a cool, dry place to maintain product performance.
Materials to avoid	Strong oxidizers.
Hazardous Decomposition products	The thermal decomposition products may include carbon dioxide and carbon monoxide.
Hazardous Polymerization	Will not occur.

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MSDS No.0030

SECTION-11. TOXICOLOGICAL INFORMATION

The dry powder may cause foreign body irritation in some individuals. Prolonged contact with the dry powder may cause drying or chapping of the skin. Excessive inhalation of dust may be annoying and can mechanically impede respiration. Due to the hygroscopic properties of the gums, they can form a paste or gel in the airway.

Data from laboratory studies and from the scientific literature on material(s) analogous to this product are summarized.

Oral-rat LD50: >5,000 mg/kg
Eye Irritation-rabbit: not irritating
Skin Irritation-rabbit: not irritating

No skin allergy was observed in guinea pigs following repeated skin exposure.

No adverse effects were observed in long-term feeding studies with rats (up to 1,000 mg/kg/day) and dogs (up to 1,000 mg/kg/day). No adverse effects were observed in a 3-generation reproduction study with rats (up to 500 mg/kg/day).

SECTION-12. ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity. A legend summarizing the classification scheme appears below.

96-hr LC₅₀: rainbow trout: 490 mg/L

48-hr LC₅₀: mysid shrimp, using 2 lb./bbl. Xanthan gum in a standard drilling mud: >500,000 ppm suspended particulate phase.

Classification in accordance with the criteria laid down in Annex VI to Directive 67/548/EEC

Values	Classifications
LC50 or EC50 < or = 1.0 mg/L	Very Toxic
LC50 or EC50 > 1.0 mg/L and < or = 10 mg/L	Toxic
LC50 or EC50 > 10 mg/L or = 100 mg/L	Harmful
LC50 or EC50 > 100 mg/L	Practically Nontoxic

BOD₅ is approx. 200 mg O₂/g

COD is approx. 1600 mg O₂/g

SECTION-13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations. Dry or wet solid material can be landfilled in accordance with local, state, and federal regulations. Liquids may be sewered in accordance with local, state, and federal regulations if care is taken to avoid pluggage or blockage of sewer systems recognizing that these materials are intended viscosity and form gels. As a carbohydrate, this material is readily biodegradable, when at low concentrations, in a biological wastewater treatment plant.

SECTION-14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation

This product is not hazardous under the applicable DOT, ICAO/IATA, or IMDG regulations.

SECTION-15. REGULATORY INFORMATION

Chemical inventories	TSCA Chemical Substances Inventory European Inventory of Existing chemical Substance (EINECS) Canadian Inventory - Domestic Substances List (DSL) Australian Inventory Korean Inventory of Chemicals Japanese Inventory (ENCS) Philippine Inventory (PICCS) Inventory of Existing Chemicals in China
SARA hazard notification	Hazard Categories Under Title III Rules (40 CFR 370): not applicable Section 302 Extremely Hazardous Substances: no applicable Section 313 Toxic Chemical(s): not applicable
CERCLA reportable quantity	not applicable
Refer to 11 for OSHA Hazardous Chemical(s) and Section 13 for RCRA classification	
Regulatory Compliance	Food Chemicals Codex 21 CFR 172.695 (USA) Part B. Division 16 Food Additives. Tale IV of Food Additives, Item X.1 (Canada) E415 Complies with Purity Criteria in current EC Directive Kosher approved

SECTION-16. OTHER INFORMATION

None.