

Innovative Turf Solutions 513.317.8311 Cell 513.672.9633 Fax November 28, 2011

1. Product and Company Information

Product Name: Hydra Tack

Manufacturer/Supplier: Innovative Turf Solutions Address: 3318 Glenmont Lane

Cincinnati, OH 45248

Phone Number: 513-317-8311 Fax Number: 513-672-9633

e-mail: www.innovativeturfsolutions.com

2. Hazards Identification

OSHA Hazardous Material: Yes

OSHA Hazard Categories: 1. Carcinogen - NO

2. Corrosive - NO

3. Highly Toxic - NO

4. Irritant - Yes

5. Sensitizer - Yes

6. Toxic - NO

7. Target Organ Effect Lung and Cutaneous -- Yes

Emergency Overview:

Concentrations of dust suspended in the air present a fire and explosion hazard.

Inhalation of dust may cause respiratory irritation and possible lung injury with symptoms of shortness of breath and reduced lung function.

Guar gum is very slippery when wet.

Acute Health Effects:

Eye Contact: Contact may cause irritation based on studies with laboratory animals.

Skin Contact: Contact may cause dryness.

Inhalation: Inhalation of dust may cause irritation of the nose, throat and respiratory passages. Symptoms include coughing, sore throat, nasal congestion, sneezing wheezing and shortness of breath. Guar gum may cause lifethreatening allergic reaction in susceptible individuals.

Ingestion: DO NOT INGEST. While this product is not toxic by ingestion, swallowing small amounts could cause complete blockage of the mouth, pharynx, trachea, esophagus and/or gastrointestinal system which may cause choking, suffocation and/or other life threatening medical conditions. Get medical attention immediately.

Chronic (long-term exposure) Health Effects:

- **Inhalation:** Overexposure to any nuisance dust may cause lung injury. Symptoms include cough, shortness of breath, difficulty breathing and reduced pulmonary function. Repeated exposures may cause allergic sensitization.
- Carcinogenicity: None of the components of this product are listed as carcinogens or suspected carcinogens by OSHA, IARC or NTP.
- Medical Conditions Aggravated by Exposure: Persons with pre-existing skin and respiratory disorders may be at an increased risk from exposure.

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3. Hazards Identification (continued)

Physical Hazards:

- Dust: It is well documented that a dust cloud will fuel an explosion in a confined area with sufficient oxygen and an ignition source. Surface (passive) and airborne (active) dust (fuel) is a potential hazard and the appropriate protective measures should be taken when handling guar outside of the bag in confined work spaces, dust collectors, dryers, mills, sifters, blender, pneumatic conveyance systems, storage tanks, etc. Utilize good housekeeping to remove surface dust from floors, walls, beams, around equipment, etc.
- Slick Surfaces: It is possible that an employee will be exposed to guar powder or dust in combination with water on work platform, floor or stair, which will result in a slippery surface.

3. Composition / Information on Ingredients

Ingredient	CAS	%
	Number	Weight
Guar Gum	9000-30-0	100
Chemical Family:	Carbohydrate	
Formula:	Approximately (C _c H ₁₀ O _c)n	

Approximately $(C_6H_{10}U_5)n$

4. First Aid Measures

Eye: Flush immediately with large amounts of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. If irritation persists get medical attention.

Skin: First aid is not normally needed. Wash exposed skin with soap and water after use. If irritation or rash develops get medical attention. Use skin lotion if dryness occurs.

Inhalation: If symptoms of irritation or allergy develop, remove person from source of exposure to fresh air. If symptoms persist get medical attention.

Ingestion: Swallowing even small amounts may have serious, life-threatening effects. Get immediate medical attention.

5. Firefighting Measures

Flashpoint: Not Applicable **Lower Explosion Limit:** 0.040 oz/cf Auto-Ignition Temperature: Not Determined **Upper Explosion Limit:** Not determined

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use streams of water as dust dispersed by water streams can explode.

Special Fire Fighting Procedures: Wear positive pressure, self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards: Powder has the potential to form explosive mixtures with air. It is well documented that a dust cloud will fuel an explosion hazard. Surface (passive) and airborne (active) dust (fuel) are a potential hazard and the appropriate protective measures should be taken when handling guar gum outside of the original packaging. Avoid creating dust. Keep away from heat, sparks and open flames. As with all dusty materials, use preventative measures including spark proof motors and ventilation to control dust. Utilize good housekeeping to remove surface dust from floors, walls, beams, around equipment, etc.

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Combustion Products: Oxides of carbon and nitrogen.

6: Accidental Release Measures

Wear appropriate protective clothing and equipment. Caution: Guar gum is very slippery when wet. Suspended dust may present a serious dust explosion hazard. Sweep up or vacuum, avoiding the creation of airborne dust. Keep spilled product away from flammable and combustible materials. Use vacuum equipment specifically designed for combustible dusts. Collect into a suitable container for disposal. Wash residual traces with hot water after sweep-up is complete. Test area for residual slippery conditions.

7. Handling and Storage

Handling: Avoid generating and breathing dust. Avoid eye contact. Use with adequate local exhaust ventilation and dust collection to maintain the concentration of airborne dust below the exposure limits. If clothing becomes contaminated, remove and launder before re-use. Wash thoroughly after handling. Keep product away from oxidizers and all sources of ignition including flames, electrical sparks, hot surfaces, pilot lights, etc.

Storage: Keep product dry. Store in a cool, dry area. Keep containers closed to avoid moisture absorption.

8. Exposure Controls / Personal Protection

Ingredient **Exposure** Limits 15 mg/m3 (Total Particulate) PEL-TWA Guar Gum

5 mg/m³ (Respirable Particulate) TLV-TWA

Engineering Controls: Consult a qualified engineer for evaluation of materials handling and explosion protection system(s).

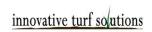
Personal Protective Equipment (PPE):

- **Eve Protection:** Safety glasses or goggles recommended.
- **Skin Protection:** Rubber, plastic or leather gloves recommended.
- Respiratory Protection: If the concentrations exceed the Threshold Value Limit (TLV), a NIOSH approved dust respirator, supplied air respirator or self-contained breathing apparatus is recommended. Select appropriate respiratory protection for respirable particulates based on consideration of the airborne workplace concentrations and duration of exposure. Select and use respirators in accordance with 29 CFR 1910.134 http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1, ANSI Z88.2 http://www.ansi.org/, the NIOSH Respirator Decision Logic and good industrial hygiene practice http://www.cdc.gov/niosh/homepage.html. To simplify selection of the appropriate respirator, OSHA has developed the Advisor Genius. Available online, the advisor genius allows a safety professional to input the conditions under which the respirator will be used and receive a recommendation of the type of respirator to use. The advisor also contains information about types of respirators and factors that affect respirator use. The online advisor contains a set of options as to the use of the respirator (firefighting, welding, escape purposes, confined areas) and then generates a report with the relevant OSHA standard indicated. The advisor is available at

http://www.osha.gov/SLTC/etools/respiratory/respirator_selection.html.

9. Physical and Chemical Properties

Boiling Point: Not Applicable Specific Gravity: Not applicable Melting Point: Decomposes % Volatile: Not applicable



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Vapor Pressure: Not Applicable Evaporation Rate (Butyl Acetate=1): Not Applicable

Vapor Density (Air=1): Not Applicable **pH:** 5-8

% Solubility in Water: Complete Octanol/Water Partition Coefficient: Not Applicable

Odor/Appearance: Creamy white powder with a bean-like odor.

10. Stability and Reactivity

Stability: Material is stable.

Incompatibility: Avoid high temperatures, sparks, open flames and moisture. Avoid contact with strong oxidizing

agents.

Hazardous Reactions-Decomposition Products: Combustion may produce carbon dioxide, carbon monoxide

and oxides of nitrogen.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Guar Gum: Oral rat LD50: 9.4g/kg

Guar gum is a natural food additive, although direct use in powder or pill form is banned by the FDA due to the risk of respiratory or gastrointestinal blockage

12. Ecological Information

NOEC - 100%

No other ecotoxicity data is available at this time.

13. Disposal Considerations

Dispose in compliance with all applicable federal, state and local regulations. Do not dump down sewers or drains as this may cause blockage.

14. Transport Information

U.S. Department of Transportation (DOT) Proper Shipping Name: Not Regulated

Hazard Class: N/A UN/NA Code: N/A Packing Group: N/A Labels Required: N/A

IMDG CODE

Proper Shipping Name: NOT REGULATED

Hazard Class: N/A UN/NA Code: N/A Packaging Group: N/A Labels Required: N/A

15. Regulatory Information

Regulatory Information

The United States Food and Drug Administration, the European Economic Community and the World Health Organization accept guar gum as a food additive/ingredient providing it meets specified purity standards and

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dosage limitations. Maximum usage levels permitted may vary from country to country. Guar gum has been affirmed as GRAS by the United States Food & Drug Administration under title 21, CFR, part 184.1339; it is listed as item G.3 of Table IV, Division 16, of the Canadian Food and Drug Regulations and is referenced E-412 under the EEC Council Directives.

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA) Reportable Quantity:

This product is not subject to CERCLA reporting requirements as it is sold.

15. Regulatory Information (continued)

OSHA Hazard Categories: Irritant, Sensitizer, Target Organ Effect.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 Hazard Categories: Fire Hazard, Acute Health

This product contains the following toxic chemical(s) subject to reporting requirements of SARA

Section 313: None

California Proposition 65: Guar gum is not a chemical known to the State of California to cause cancer or reproductive toxicity under the "Safe Drinking Water and Toxic Enforcement Act of 1986".

Toxic Substances Control Act (TSCA): All components of this product are listed on the TSCA inventory or exempt from notification requirements.

Canadian Environmental Protection Act: All of the components of this product are listed on the Canadian Domestic Substances List or exempt from notification requirements.

European Inventory of Existing Commercial Chemical Substances (EINECS): All of the components of this product are listed on the EINECS Inventory or exempt from notification requirements.

Japan MITI: All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

Australian Inventory of Chemical Substances: All of the components of this product are listed on the AICS Inventory or exempt from notification requirements.

Canadian WHMIS Classification: Class B, Division 4 (Flammable Solid)

16. Other Information

NFPA Hazard Ratings:

NFPA® Flammable (combustible dust) with representative diameter less than 420 microns (40 mesh).

Health: 1 Flammability: 2 Reactivity: 0

HMIS Hazard Ratings:

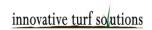
Health: 1 Flammability: 1 Reactivity: 0

Abbreviations:

ACGIH American Conference Of Governmental Industrial Hygienists

American National Standards Institute ANSI

CAS Chemical Abstracts Service



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CDC Centers for Disease Control and Prevention

CFR The Code of Federal Regulations **European Economic Community EEC**

EINECS European Inventory of Existing Commercial Chemical Substances

United States Environmental Protection Agency **EPA** United States Food and Drug Administration **FDA** Hazardous Materials Identification System **HMIS IARC** International Agency for Research on Cancer **IMDG** International Maritime Dangerous Goods

16. Other Information -- Abbreviations (continued)

LD50 Lethal Dose expected to cause death in 50% of the test animals

Ministry of International Trade and Industry MITI **NFPA** National Fire Protection Association

NIOSH CDC - National Institute for Occupational Safety

NTP National Toxicological Program

OSHA U.S. Department of Labor, Occupational safety and health administration

PEL OSHA - permissible exposure limit TLV ACGIH - threshold limit value Time weighted average TWA

United Nations / North America UN/NA

US **United States**

WHMIS Workplace Hazardous Materials Information System

NOTICE:

Information contained in the company's technical literature is believed to be accurate. It is a condition to any sale that buyer conduct an examination of the products under its own operating conditions within a reasonable time after the products have been delivered to buyer and determined to its own satisfaction that the products delivered hereunder are of acceptable quality and are suitable for buyer's contemplated use. The company makes no representation or warranty of any kind, express or implied, with respect to its products or to the use of its products by the buyer in combination with other substances, whether as to merchantability, fitness for a particular purpose, or any other matter. Statements concerning the possible use of the company's products are not intended as recommendations to use the company's products in the infringement of any patent.

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