MATERIAL SAFETY DATA SHEET GUAR GUM

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: HIGUM HV 400F

CHEMICAL CLASS: Guar Gum

APPLICATIONS: Oil well drilling fluid additive.

EMERGENCY TELEPHONE: 281-561-1600

SUPPLIER: Supplied by: Hindustan Gum

India

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME: CAS No.: CONTENTS: EPA RQ: TPQ:

Guar Gum 9000-30-0 100 %

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CAUTION! MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Avoid breathing airborne product. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

This product is a/an Off-white powder. May form explosive dust-air mixtures. Slippery when wet. A nuisance dust.

ACUTE EFFECTS:

HEALTH HAZARDS, GENERAL:

Particulates may cause mechanical irritation to the eyes, nose, throat and lungs. Particulate inhalation may lead to pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma. Dermatitis and asthma may result from short contact periods.

INHALATION: May cause irritation to the respiratory system. May cause respiratory allergy.

INGESTION: May cause gastric distress, nausea and vomiting if ingested.

SKIN: May be irritating to the skin.

EYES: May be irritating to the eyes.

CHRONIC EFFECTS:

SENSITIZATION:

Raw Guar contains natural proteins that can cause allergic reactions such as asthma and rhinitis. Processed guar, such as this product, contains far less protein and therefore has a lower risk of sensitization.

CARCINOGENICITY:

IARC: Not listed. OSHA: Not regulated. NTP: Not listed.

ROUTE OF ENTRY:

Inhalation. Skin and/or eye contact.

TARGET ORGANS:

Respiratory system, lungs. Skin. Eyes.

4. FIRST AID MEASURES

GENERAL: Persons seeking medical attention should carry a copy of this MSDS with them.

INHALATION: Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Get medical attention.

INGESTION: Drink a couple of glasses water or milk. Do NOT induce vomiting unless directed to do so by a physician. Never give

anything by mouth to an unconscious person. Get medical attention.

SKIN: Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention if any discomfort

continues.

EYES: Promptly wash eyes with lots of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical

attention if any discomfort continues.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F): >199 METHOD: Sh CC (Setaflash closed cup).

AUTO IGNITION TEMP. (°F): N/D FLAMMABILITY LIMIT - LOWER(%): N/D FLAMMABILITY LIMIT - UPPER(%): N/D

EXTINGUISHING MEDIA:

Carbon dioxide (CO2). Dry chemicals. Foam. Water spray, fog or mist.

SPECIAL FIRE FIGHTING PROCEDURES:

No specific fire fighting procedure given.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Dust in high concentrations may form explosive mixtures with air.

HAZARDOUS COMBUSTION PRODUCTS:

Irritating gases/vapors/fumes. Oxides of: Carbon.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Wear proper personal protective equipment (see MSDS Section 8).

SPILL CLEAN-UP PROCEDURES:

Avoid generating and spreading of dust. Shovel into dry containers. Cover and move the containers. Flush the area with water. Do not contaminate drainage or waterways. Repackage or recycle if possible.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:

Avoid handling causing generation of dust. Wear full protective clothing for prolonged exposure and/or high concentrations. Eye wash and emergency shower must be available at the work place. Wash hands often and change clothing when needed. Provide good ventilation. Mechanical ventilation or local exhaust ventilation is required.

STORAGE PRECAUTIONS:

Store at moderate temperatures in dry, well ventilated area. Keep in original container.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

OSHA PEL: ACGIH TLV: OTHER:

INGREDIENT NAME: CAS No.: TWA: STEL: TWA: STEL: TWA: STEL: UNITS: Guar Gum 9000-30-0 No std.

INGREDIENT COMMENTS:

This product is regulated as nuisance particulates (dust/mist/aerosol). TLV: 3 mg/m3 resp. dust; PEL: 5 mg/m3 resp. dust.

PROTECTIVE EQUIPMENT:







ENGINEERING CONTROLS:

Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to reduce air contamination and keep worker exposure below the applicable limits.

VENTILATION: Supply natural or mechanical ventilation adequate to exhaust airborne product and keep exposures below the applicable

limits.

RESPIRATORS: Use at least a NIOSH-approved N95 half-mask disposable or reuseable particulate respirator. In work environments

containing oil mist/aerosol use at least a NIOSH-approved P95 half-mask disposable or reuseable particulate respirator.

PROTECTIVE GLOVES:

Use suitable protective gloves if risk of skin contact.

EYE PROTECTION:

Wear dust resistant safety goggles where there is danger of eye contact.

PROTECTIVE CLOTHING:

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES:

Wash promptly with soap and water if skin becomes contaminated. Change work clothing daily if there is any possibility of contamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Powder, dust.
COLOR: Off-white.
ODOR: bean-like

SOLUBILITY DESCRIPTION: Gels

DENSITY/SPECIFIC GRAVITY (g/ml): 1.3 TEMPERATURE (°F): 77

VAPOR DENSITY (air=1): N/A

VAPOR PRESSURE: N/A TEMPERATURE (°F):

pH-VALUE, DILUTED SOLUTION: 5 - 8 CONCENTRATION (%,M): 0.5%

10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID:

Avoid dust close to ignition sources. Avoid strong heating and ignition sources.

HAZARDOUS POLYMERIZATION:

Will not polymerize.

POLYMERIZATION DESCRIPTION:

Not relevant.

MATERIALS TO AVOID:

Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

No toxicological data is available for this product.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

No ecological information is available for this product. Contact M-I Environmental Affairs for ecological information.

13. DISPOSAL CONSIDERATIONS

WASTE MANAGEMENT:

This product does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting materials hazardous.

Empty containers retain residues. All labeled precautions must be observed.

DISPOSAL METHODS:

Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that containers are empty by RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

PRODUCT RQ: N/A

U.S. DOT:

U.S. DOT CLASS: Not regulated.

CANADIAN TRANSPORT:

TDGR CLASS: Not regulated.

SEA TRANSPORT:

IMDG CLASS: Not regulated.

AIR TRANSPORT:

ICAO CLASS: Not regulated.

15. REGULATORY INFORMATION

REGULATORY STATUS OF INGREDIENTS:

 NAME:
 CAS No:
 TSCA:
 CERCLA:
 SARA 302:
 SARA 313:
 DSL(CAN):

 Guar Gum
 9000-30-0
 Yes
 No
 No
 No
 Yes

US FEDERAL REGULATIONS:

WASTE CLASSIFICATION: Not a hazardous waste by U.S. RCRA criteria. See Section 13.

REGULATORY STATUS: This Product or its components, if a mixture, is subject to following regulations (Not meant to

be all inclusive - selected regulations represented):

SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization

Act of 1986 and 40 CFR Part 372.

SARA 311 Categories:

1: Immediate (Acute) Health Effects.

The components of this product are listed on or are exempt from the following international

chemical registries:

TSCA (U.S.)

STATE REGULATIONS:

STATE REGULATORY STATUS: This product or its components, if a mixture, is subject to following regulations (Not meant to

be all inclusive - selected regulations represented):.

None.

PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or

reproductive toxicity, and for which warnings are now required.

CANADIAN REGULATIONS:

REGULATORY STATUS: This Material Safety Data Sheet has been prepared in compilance with the Controlled Product

Regulations.

Canadian WHMIS Classification: Not a Controlled Product.

16. OTHER INFORMATION

NPCA HMIS HAZARD INDEX: 2 Moderate Hazard FLAMMABILITY: 1 Slight Hazard REACTIVITY: 0 Minimal Hazard

NPCA HMIS PERS. PROTECT. INDEX: E - Safety Glasses, Gloves, Dust Respirator

USER NOTES: N/A = Not applicable N/D = Not determined

INFORMATION SOURCES: OSHA Permissible Exposure Limits, 29 CFR 1910, Subpart Z, Section 1910.1000, Air

Contaminants.

ACGIH Threshold Limit Values and Biological Exposure Indices for Chemical Substances

and Physical Agents (latest edition).

Sax's Dangerous Properties of Industrial Materials, 9th ed., Lewis, R.J. Sr., (ed.), VNR, New

York, New York, (1997).

Product information provided by the commercial vendor(s).

PREPARED BY: Sam Hoskin/bb

REVISION No./Repl. MSDS of: 3/March 21, 2000

MSDS STATUS: Approved.

DATE: May 21, 2004

DISCLAIMER:

MSDS furnished independent of product sale. While every effort has been made to accurately describe this product, some of the data are obtained from sources beyond our direct supervision. We cannot make any assertions as to its reliability or completeness; therefore, user may rely on it only at user's risk. We have made no effort to censor or conceal deleterious aspects of this product. Since we cannot anticipate or control the conditions under which this information and product may be used, we make no guarantee that the precautions we have suggested will be adequate for all individuals an/or situations. It is the obligation of each user of this product to comply with the requirements of all applicable laws regarding use and disposal of this product. Additional information will be furnished upon request to assist the user; however, no warranty, either expressed or implied, nor liability of any nature with respect to this product or to the data herein is made or incurred hereunder.