

A HUBER COMPANY

Revision Date 09/Feb/2010

Revision Number 0.2

1. PRODUCT AND COMPANY IDENTIFICATION

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|-----------------------------------|--|
| Product Name | BIOZAN® |
| Product Use | Oil field drilling fluid compound |
| Chemical Name | Welan Gum |
| Company | Kelco Oil Field Group Division of CP KELCO ApS 10920 W. Sam Houston Parkway North Suite 800 Houston, Texas 77064 USA |
| Telephone | 1 800 331 3677 For additional non-emergency information +1 713 895 7575 1 8 a.m. - 5 p.m. (Central Time) weekdays |
| Fax | +1 713 895 7586 (Houston) |
| Emergency Telephone Number | CHEMTREC: 1 800 424 9300 or International +1 703 527 3887 |
| Email | kofg@cpkelco.com |
| Internet | www.kofg.com |

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance white to tan

Physical State powder

Odor slight odor

D.O.T. Hazard Classification Non-hazardous material

OSHA Regulatory Status OSHA Hazard: Warning: Combustible dust. Ensure appropriate electrical classification and avoidance of ignition sources in dusty environments.

Handle in a manner consistent with good industrial hygiene practices--avoid creating or inhaling aerosols of this or any other material.

Slip Hazard Slip hazard when spilled material becomes wet.

Potential Health Effects

Principle Routes of Exposure Inhalation. Skin contact.

Acute Effects

Eyes Dry powder may cause foreign body irritation in some individuals..

Skin Prolonged contact with the dry powder may cause drying or chapping..

Inhalation Hygroscopic properties of the gum can form a paste or gel in the airway. Inhalation of dust may cause respiratory tract irritation. Excessive inhalation of dust may cause coughing and sneezing.

Ingestion Not toxic if swallowed (less than a mouthful) based on available information.

Additional toxicology information Refer to Section 11

Potential Environmental Effects Refer to Section 12 for Ecological Information
Refer to Section 13 for Disposal Considerations

3. COMPOSITION/INFORMATION ON INGREDIENTS

| COMPONENT(S) | CAS Number |
|--------------|------------------------|
| Welan Gum | 96949-22-3, 72121-88-1 |

4. FIRST AID MEASURES

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| General Advice | Remove material from eyes, skin and clothing. In case of doubt or when symptoms persist, seek medical attention. Wash heavily contaminated clothing before reuse. |
| Eye contact | Hold eyelids apart and flush eyes with a steady, gentle stream of water for several minutes. If eye irritation persists, seek medical attention. |
| Skin contact | Wash off with soap and plenty of water. |
| Inhalation | Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration. |
| Ingestion | No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed. |

5. FIRE-FIGHTING MEASURES

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| General Advice | Treat as "Class A" fire. Product will burn when in contact with a flame. Self extinguishes when ignition source is removed. Tends to smoulder. | | | | | |
| Suitable Extinguishing Media | Water. Carbon dioxide (CO2). | | | | | |
| Hazardous Combustion Products | carbon dioxide carbon monoxide | | | | | |
| Specific Hazards | Can contain sufficient fines to cause a combustible dust explosion Do not breathe smoke, gases or vapors generated | | | | | |
| Special Protective Equipment for Firefighters | As in any fire, wear self-contained breathing apparatus (SCBA) pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear | | | | | |
| NFPA | Health | 1 | Flammability | 1 | Instability | 0 |
| HMIS | Health | 1 | Flammability | 1 | Physical Hazard (Reactivity) | 0 |

6. ACCIDENTAL RELEASE MEASURES

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| Personal Precautions | Wet material on walking surfaces will be extremely slippery. Avoid dust formation. In case of exposure to high levels of airborne dust, wear a personal respirator in compliance with national legislation. |
| Methods for Cleaning up | Use vacuum equipment designed specifically for combustible dust. Take precautionary measures against static discharges. The use of water wash down is not recommended unless the spilled material is already wet. Disposal information - Refer to Section 13. |
| Other information | Reportable quantities - Refer to Section 15. |

7. HANDLING AND STORAGE

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| Handling | Avoid dust formation. Provide appropriate exhaust ventilation in places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid conditions that generate airborne dust in handling, transfer and clean up. Product may form combustible dust-air mixtures. Keep away from heat, flame sparks and other ignition sources. Avoid emptying package in or near flammable vapors. Static charges may cause flash fire. Remove material from eyes, skin and clothing. |
| Storage | Store in a cool (50-80 °F / 10-27 °C), dry (<65% relative humidity) place in a sealed container. Avoid storing near incompatible materials (Refer to Section 10). Refer to Product Data Sheet for "Storage Conditions/Shelf Life" information. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

| COMPONENT(S) | OSHA PEL | ACGIH TLV |
|--------------|---|-----------------|
| Welan Gum | 15 mg/m ³ (total dust) 8-hr TWA 5 mg/m ³ (respirable) 8-hr TWA | Not established |

Dust: 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.

Engineering Controls Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits in this section. The use of local mechanical exhaust ventilation is preferred at sources of air contamination such as open process equipment.

Personal Protective Equipment

Respiratory Protection Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposures exceeds established guidelines. Consult the respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer.

Hand Protection Gloves are recommended if extended exposure is anticipated.

Eye Protection This product does not cause significant eye irritation or eye toxicity requiring special protection. Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin and Body Protection Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|--------------------------|---|
| Appearance | white to tan |
| Physical State | powder |
| Odor | slight odor |
| pH | Approximately neutral (as 1% solution) |
| Flash point | Not applicable |
| Auto Flammability | Autoignition temperature is above 200°C (392°F) |
| Water solubility | Soluble. Forms viscous solutions. Becomes a paste at concentrations greater than 5%, approximately. |

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.

10. STABILITY AND REACTIVITY

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| Stability | Stable under recommended storage conditions. Hazardous polymerization does not occur. |
| Conditions to Avoid | Avoid dust formation |
| Materials to Avoid | Strong oxidizing agents |
| Hazardous Decomposition Products | This product does not undergo spontaneous decomposition. Thermal decomposition products: carbon monoxide carbon dioxide (CO ₂) |

11. TOXICOLOGICAL INFORMATION

General

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, they can form a paste or gel in the airway.

Data from laboratory studies conducted by CP Kelco and/or from the scientific literature on components are summarized below.

Welan Gum

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|------------------------|---|
| LD50 Oral | >5,000 mg/kg rat |
| LC50 Inhalation | >5 mg/l 4-hour rat |
| Irritation | Non-Irritating Eye (rabbit) Non-irritating Skin (rabbit) |

12. ECOLOGICAL INFORMATION

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| Ecotoxicity | Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
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Welan Gum

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| 96-Hour LC50 | Fathead minnows: > 750 mg/l; practically nontoxic Mysid shrimp, using 2 lb./bbl. welan gum in a standard drilling mud: 75,000 ppm whole mud Turbot: 200 mg/l |
| 72-Hour EC50 | Algal: 1240 mg/l |
| 48-Hour EC50 | Acartia: 221mg/l |

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| Persistence / Degradability | Being a natural polysaccharide, this product is readily biodegradable in fresh and seawater (OECD 301 and 306, respectively). |
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| Bioaccumulative Potential | Inherently biodegradable. |
|----------------------------------|---------------------------|

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

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

14. TRANSPORT INFORMATION

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

D.O.T. Hazard Classification Non-hazardous material

TDG Not hazardous

IMO / IMDG Not hazardous

ICAO / IATA Not hazardous

RID/ADR Not hazardous

15. REGULATORY INFORMATION

International Inventories

Component(s) of the product are on the following Inventory lists:

- TSCA
- Europe: EINECS/ELINCS: Monomers are listed
- Canada (DSL)
- Korea (ECL)

Regulatory Restrictions

For information on approved use of this product, or products in which this product is an ingredient, in other countries/regions not specified herein, please contact CP Kelco Regulatory Affairs.

USA

Federal Regulations

SARA Sections 302/304 313; CERCLA RQ:

Note: If no components are listed below, this product is not subject to these referenced SARA and CERCLA regulations.

State Regulations

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This product is not known to contain a chemical at a level that is expected to pose significant risk under anticipated use conditions.

Canada

WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not a controlled product

16. OTHER INFORMATION

Prepared By

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Disclaimer

The information contained in this Safety Data Sheet to the best of CP Kelco's knowledge and belief as of the date indicated is believed to be accurate and reliable. However, no representation, warranty or guarantee is implied or expressed regarding the accuracy, reliability or completeness of this information or the use of the product. Nothing contained herein should be construed as a recommendation to use this product in conflict with National or local regulations or existing patents covering any material or its use. In case of dispute, the English text governs.

END OF SAFETY DATA SHEET