



MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: DUO-VIS*

Revision Date: 07/21/2009

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: DUO-VIS*
Chemical Family: Mixture
Product Use: Drilling fluid additive.
Supplied by: M-I L.L.C.
P.O. Box 42842
Houston, TX 77242
www.miswaco.com
Telephone Number: 281-561-1511
Emergency Telephone (24 hr.): 281-561-1600
Prepared by: Product Safety Group
Revision No. 5

HMIS Rating

Health: 2 Flammability: 1 Physical Hazard: 0 PPE: E

4=Severe, 3=Serious, 2=Moderate, 1=Slight, 0=Minimal Hazard. *Chronic effects - See Section 11. See Section 8 for Personal Protective Equipment recommendations.

2. HAZARDS IDENTIFICATION

Emergency Overview: Warning! May cause eye, skin, and respiratory tract irritation. May cause skin sensitization, an allergic reaction, on repeated exposure. Long term inhalation of particulates may cause lung damage.

Canadian Classification:

UN PIN No: Not regulated. WHMIS Class: D2B

Physical State: Powder. Color: White to Tan Odor: Slight

Potential Health Effects:

Acute Effects

Eye Contact: May irritate eyes.
Skin Contact: May be irritating to the skin. May cause skin sensitization, an allergic reaction, on repeated exposure.
Inhalation: May be irritating to the respiratory tract. Long term inhalation of particulate may cause lung damage.
Ingestion: May cause gastric distress, nausea and vomiting if ingested.

Carcinogenicity & Chronic Effects: See Section 11 - Toxicological Information.

Routes of Exposure: Eyes. Dermal (skin) contact. Inhalation.
Target Organs/Medical Conditions Aggravated by Overexposure: Eyes. Skin. Respiratory System.

MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: DUO-VIS*
Revision Date: 07/21/2009

Page 2/6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Wt. %	Comments:
Xanthan gum	11138-66-2	99 - 99.9	No comments.
Glyoxal	107-22-2	0.1 - 1	No comments.

4. FIRST AID MEASURES

Eye Contact: Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Skin Contact: Wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if any discomfort continues.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Dilute with 2 - 3 glasses of water or milk, if conscious. Never give anything by mouth to an unconscious person. If signs of irritation or toxicity occur seek medical attention.

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

5. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: F (C): NA
Flammable Limits in Air - Lower (%): ND
Flammable Limits in Air - Upper (%): ND
Autoignition Temperature: F (C): ND
Flammability Class: ND
Other Flammable Properties: Particulate may accumulate static electricity. Dusts at sufficient concentrations can form explosive mixtures with air.

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Protection Of Fire-Fighters:

Special Fire-Fighting Procedures: Do not enter fire area without proper personal protective equipment, including NIOSH/MSHA approved self-contained breathing apparatus. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and waterways.

Hazardous Combustion Products: Oxides of: Carbon.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment identified in Section 8.

Spill Procedures: Evacuate the spill area with the exception of the spill response team. Contain spilled material. Do not allow spilled material to enter sewers, storm drains or surface waters. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Environmental Precautions: Waste must be disposed of in accordance with federal, state and local laws.

MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: **DUO-VIS***
Revision Date: 07/21/2009

Page 3/6

7. HANDLING AND STORAGE

- Handling:** Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid generating or breathing dust. Product is slippery if wet. Use only with adequate ventilation. Wash thoroughly after handling.
- Storage:** Store at room temperature in dry, well ventilated area. Keep in original container. Keep container closed. Store away from incompatibles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits (TLV & PEL - 8H TWA):

Ingredient	CAS No.	Wt. %	ACGIH TLV	OSHA PEL	Other	Notes
Xanthan gum	11138-66-2	99 - 99.9	NA	NA	NA	(1)
Glyoxal	107-22-2	0.1 - 1	0.1 mg/m ³	NA	NA	(sen)

Notes

(1) Control as an ACGIH particulate not otherwise specified (PNOS): 10 mg/m³ (Inhalable); 3 mg/m³ (Respirable) and an OSHA particulate not otherwise regulated (PNOR): 15 mg/m³ (Total); 5 mg/m³ (Respirable).
(Sen) - Sensitizer.

Engineering Controls: Use appropriate engineering controls such as, exhaust ventilation and process enclosure, to ensure air contamination and keep workers exposure below the applicable limits.

Personal Protection Equipment

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazards present and the risk of exposure to those hazards. The PPE recommendations below are based on our assessment of the chemical hazards associated with this product. The risk of exposure and need for respiratory protection will vary from workplace to workplace and should be assessed by the user.

- Eye/Face Protection:** Dust resistant safety goggles.
- Skin Protection:** Wear appropriate clothing to prevent repeated or prolonged skin contact. Chemical resistant gloves recommended for prolonged or repeated contact. Use protective gloves made of: Neoprene. Nitrile.
- Respiratory Protection:** All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the requirements of 29 CFR 1910.134 (U.S. OSHA Respiratory Protection Standard) or local equivalent.
- If exposed to airborne particles of this product use at least a NIOSH-approved N95 half-mask disposable or re-useable particulate respirator. In work environments containing oil mist/aerosol use at least a NIOSH-approved P95 half-mask disposable or re-useable particulate respirator.
- General Hygiene Considerations:** 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

MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: DUO-VIS*
Revision Date: 07/21/2009

Page 4/6

Color: White to Tan
Odor: Slight
Physical State: Powder.
pH: 5.4 - 8.6
Specific Gravity (H₂O = 1): 1.5 g/cc
Solubility (Water): Soluble
Melting/Freezing Point: ND
Boiling Point: ND
Vapor Pressure: NA
Vapor Density (Air=1): NA
Evaporation Rate: ND
Odor Threshold(s): ND

10. STABILITY AND REACTIVITY

Chemical Stability: Stable
Conditions to Avoid: Keep away from heat, sparks and flame.
Materials to Avoid: Strong oxidizing agents.
Hazardous Decomposition Products: For thermal decomposition products, see Section 5.
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Component Toxicological Data: Any adverse component toxicological effects are listed below. If no effects are listed, no such data were found.

Ingredient	CAS No.	Acute Data
Xanthan gum	11138-66-2	Oral LD50: > 5,000 mg/kg (rat)
Glyoxal	107-22-2	Oral LD50: 200 mg/kg (rat); Dermal LD50: 10 ml/kg (rabbit)

Product Toxicological Information:
No toxicological data is available for this product.

12. ECOLOGICAL INFORMATION

Component Ecotoxicity Data: Component ecotoxicity data are listed below. If no data are listed, none was found in the component review.

Ingredient	CAS No.	Data
Xanthan gum	11138-66-2	LC50 96H: 490 mg/l (rainbow trout); LC50 48H: 980 mg/l (Daphnia magna)
Glyoxal	107-22-2	LC50 96H static: 215,000 ug/l (Pimephales promelas (fathead minnow)); EC50 96H static: 66,480 - 148,960 ug/l (Selenastrum capricornutum (green algae))

Product Ecotoxicity Data: Contact M-I Environmental Affairs Department for available product ecotoxicity data.

Biodegradation: ND
Bioaccumulation: ND
Octanol/Water Partition Coefficient: ND

MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: **DUO-VIS***
Revision Date: 07/21/2009

Page 5/6

13. DISPOSAL CONSIDERATIONS

- Waste Classification:** This product does not meet the criteria of a hazardous waste if discarded in its purchased form.
- Waste Management:** Under U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine at the time of disposal, whether the product meets RCRA criteria for the 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 Method:** Recover and reclaim or recycle, if practical. Should this product become a waste, dispose of in a permitted industrial landfill. Ensure that the containers are empty by the RCRA criteria prior to disposal in a permitted industrial landfill.

14. TRANSPORT INFORMATION

U.S. DOT

- Shipping Description:** Not regulated for transportation by DOT, TDG, IMDG, ICAO/IATA.
- Canada TDG Shipping Description:** Not regulated.
- UN PIN No:** Not regulated.
- IMDG Shipping Description:** Not regulated.
- ICAO/IATA Shipping Description:** Not regulated.

15. REGULATORY INFORMATION

U.S. Federal and State Regulations

SARA 311/312 Hazard Categories: Immediate (acute) health hazard.

SARA 302/304, 313; CERCLA RQ, California Proposition 65: Note: If no components are listed below, this product is not subject to the referenced SARA and CERCLA regulations and is not known to contain a Proposition 65 listed chemical at a level that is expected to pose a significant risk under anticipated use conditions.

International Chemical Inventories

- Australia AICS - Components are listed or exempt from listing.
- Canada DSL - Components are listed or exempt from listing.
- China Inventory - Components are listed or exempt from listing.
- European Union EINECS/ELINCS - Components are listed or exempt from listing.
- Japan METI ENCS - Components are listed or exempt from listing.
- Korea TCCL ECL - Components are listed or exempt from listing.
- New Zealand - Components are listed or exempt from listing.
- Philippine PICCS - Components are listed or exempt from listing.
- U.S. TSCA - Components are listed or exempt from listing.
- U.S. TSCA - No components are subject to TSCA 12(b) export notification requirements.

Canadian Classification:

MATERIAL SAFETY DATA SHEET

MSDS No. 10034

Trade Name: **DUO-VIS***
Revision Date: 07/21/2009

Page 6/6

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

WHMIS Class: D2B

16. OTHER INFORMATION

The following sections have been revised: 1, 4, 6, 15, 16

NA - Not Applicable, ND - Not Determined.

*A mark of M-I L.L.C.

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 can not 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 and/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.