



MATERIAL SAFETY DATA SHEET

Trade Name: ActiVator II™

Revision Date: 22-Dec-09

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: ActiVator II™
Chemical Family: Mixture
Product Use: Oil well drilling fluid additive
Emergency Telephone (24 hr.): (ChemTrec) 800-424-9300
Supplied by: HiTech Fluid Systems Ltd.
1800, 505 - 3rd Street S.W.
Calgary, AB T2P 3E6
Tel: 403.547.2906
Fax: 403.547.3129
www.hitechfluid.com

Revision Number: 9

HMIS Rating

Health: 1

Flammability: 0

Physical Hazard: 0

PPE: E

HMIS Key: 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. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Wt. %	Comments:
Magnesium oxide	1309-48-4	60 - 100	No comments.
Oligosaccharides/Lignin Blend		5 - 10	No comments.

3. HAZARDS IDENTIFICATION

Emergency Overview: Caution! May cause eye, skin, and respiratory tract irritation. Long term inhalation of particulates may cause lung damage.

Canadian WHMIS:

UN PIN No: Not regulated

WHMIS Class: D2B

Physical State: Powder

Odor: Odorless

Color: White to tan

Potential Health Effects:

Acute Effects

Eye Contact:

May irritate eyes.

Skin Contact:

May be irritating to the skin.

Inhalation:

May be irritating to the respiratory tract.

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.

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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 laundry 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 (%):	NA
Flammable Limits in Air - Upper (%):	NA
Auto Ignition Temperature: F(C)	NA
Flammability Class:	NA
Other Flammable Properties:	ND
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:	Reacts with water to form magnesium hydroxide with the release of heat.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Use personal protective equipment identified in Section 8.
Spill Procedures:	Evacuate surrounding area, if necessary. Contain spilled material. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.
Environmental Precautions:	Do not allow to enter sewer or surface and subsurface waters. Waste must be disposed of in accordance with federal, state and local laws.

7. HANDLING AND STORAGE

Handling:	Put on appropriate personal protective equipment. Avoid contact with skin and eyes. Avoid generating or breathing dust. Use only with adequate ventilation. Wash thoroughly after handling.
Storage:	Store in dry, well-ventilated area. Keep container closed. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Ingredient	CAS No.	Wt. %	ACGIH TLV	OSHA PEL	Other	Notes
Magnesium oxide	1309-48-4	60 – 100	10 mg/m ³ (fume)	15 mg/m ³ (total particulate)	NA	None
Oligosaccharides/Lignin Blend		5 – 10	NA	NA	NA	(1)

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).

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

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: Use at least a NIOSH-approved N95 half-mask disposable or reuseable particulate respirator (dust mask). In work environments containing oil mist/aerosol, use at least NIOSH-approved P95 half-mask disposable or reuseable particulate respirator. For exposure exceeding 10 x PEL use a NIOSH-approved N100 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

Color:	White to tan
Odor:	Odorless
Physical State:	Powder
pH:	9.5 – 11.0 (1% solution)
Specific Gravity (H₂O = 1):	3.56
Solubility (Water):	Slightly
Melting/Freezing Point:	ND
Boiling Point:	ND
Vapor Pressure:	NA
Vapor Density (Air=1):	NA
Evaporation Rate:	NA
Odor Threshold(s):	ND

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Strong oxidizing agents.
Materials to Avoid:	Sublimed sulfur. Interhalogens. Aluminum. Magnesium. Moisture. Acids. Oxidizers.
Hazardous Decomposition Products:	Oxides of carbon
Hazardous Polymerization:	Will not occur

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11. TOXICOLOGICAL INFORMATION

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

Product Toxicological Information: Long term inhalation of particulate can cause irritation, inflammation and/or permanent injury to the lungs. Illnesses such as pneumoconiosis ("dusty lung"), pulmonary fibrosis, chronic bronchitis, emphysema and bronchial asthma may develop.

12. ECOLOGICAL INFORMATION

Product Ecotoxicity Data: Contact MASI's Environmental Affairs Department for available product ecotoxicity data.

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

13. DISPOSAL CONSIDERATIONS

Waste Classification: Contact MASI's Environmental Affairs Department for waste management assistance.

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 contain 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.

TDG (Canada):
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.

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State Comments: This product is not known to contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer and/or reproductive toxicity at levels that are 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 EINECS - 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.

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:

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

NA - Not Applicable, ND - Not Determined.

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.