

INVERT OIL-BASED MUD

SECTION 1. IDENTIFICATION

Product Identifier INVERT OIL-BASED MUD
Product Family Oil-based Invert Emulsion
Recommended Use Drilling Fluid.
Supplier Identifier Bri-Chem Supply Ltd., Bay 4, 5510 - 3rd Street SE, Calgary, Alberta, T2H 1J9, Bri-Chem Supply, 403-252-5904, www.brichemsupply.com
Emergency Phone No. ChemTrec, (800) 424-9300, 24/7

SECTION 2. HAZARD IDENTIFICATION

Classification

Eye irritation - Category 2A; Carcinogenicity - Category 1B; Aspiration hazard - Category 1

Label Elements



Signal Word:

Danger

Hazard Statement(s):

Causes serious eye irritation.

May cause cancer.

May be fatal if swallowed and enters airways.

Precautionary Statement(s):

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTRE or doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice or attention.

Do NOT induce vomiting.

If eye irritation persists: Get medical advice or attention.

Storage:

Store locked up.

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Distillates (petroleum), straight-run middle	64741-44-2	60-95	

Product Identifier: INVERT OIL-BASED MUD

Date of Preparation: October 21, 2016

Page 01 of 05

Calcium chloride (brine)	10043-52-4	0-35	
Calcium hydroxide	1305-62-0	1-5	
Petroleum hydrocarbons	64741-44-2	1-3	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove to fresh air. If breathing has stopped, begin CPR IMMEDIATELY. Get medical attention immediately.

Skin Contact

Immediately flush contaminated area with warm water for at least 15 minutes. Under running water, remove contaminated clothing, shoes and leather goods. If irritation develops or persists, seek medical attention.

Eye Contact

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water while holding the eyelid(s) open for at least 15 minutes. If eye irritation develops or persists, seek medical attention.

Ingestion

Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 300 ml of water to dilute materials. Never give anything by mouth to an unconscious or convulsing victim. Get immediate medical attention.

First-aid Comments

Provide general supportive measures (comfort, rest, warmth). Consult a doctor for all exposures except minor instances of inhalation or contact.

Most Important Symptoms and Effects, Acute and Delayed

Symptoms may not appear immediately. Oral ingestion of calcium chloride may cause serum acidosis.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Water spray or fog, foam, carbon dioxide (CO₂), dry chemical or halon.

Specific Hazards Arising from the Product

Sensitive to static discharge at temperatures at or above the flash point.

Oxides of carbon, oxides of sulphur, aldehydes, oxides of calcium, hydrogen chloride.

Special Protective Equipment and Precautions for Fire-fighters

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

Ventilate closed spaces before entering.

Environmental Precautions

It is good practice to prevent spilled material and/or runoff from entering waterways, drains and sewers. Prevent further leakage or spillage if safe to do so.

Methods and Materials for Containment and Cleaning Up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Extinguish all flames in the vicinity. Stop leak if safe to do so without risk.

Small spills: Wipe up with absorbent material (cloth, fleece). Clean surfaces thoroughly to remove residue contamination.

Large spills: Stop the flow of material, if this can be done without risk. Dike the spilled material where it is possible and use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Product Identifier: INVERT OIL-BASED MUD

Date of Preparation: October 21, 2016

Page 02 of 05

Never return spills in original containers for re-use.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Use with adequate ventilation. Wear appropriate protective equipment. DO NOT handle or open near an open flame, sources of heat or sources of ignition. Vapours may travel to a source of ignition and flash back. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Keep containers closed when not in use. Empty containers can present a fire or explosion hazard. Avoid contact with skin, eyes and clothing. Do not smoke, eat or drink when handling this product. Wash thoroughly after handling. DO NOT cut, puncture or weld on or near containers.

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

Conditions for Safe Storage

Store in tightly closed containers in a cool, well-ventilated area away from immediate work areas and incompatible materials. No sources of heat, flame or sparks should be present in the storage area. The pressure in sealed containers can increase under the influence of heat. This material can accumulate static charge which may cause spark and become an ignition source. Prevent static charge build-up by using common bonding and grounding techniques.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Distillates OSHA: 5 mg/m³ TWA for oil mist, mineral

Calcium Hydroxide ACGIH: 5 mg/m³ TWA

OSHA: 15 mg/m³ Total dust TWA; 5 mg/m³ Respirable fraction TWA

Polycyclic Aromatic Hydrocarbons OSHA: 0.2 mg/m³ TWA for benzene-soluble fraction

ACGIH® = American Conference of Governmental Industrial Hygienists.

OSHA = US Occupational Safety and Health Administration.

TWA = Time-Weighted Average.

Appropriate Engineering Controls

General ventilation is normally adequate for small scale use at room temperature or below. Local exhaust is normally needed with large-scale use or at elevated temperatures. Use explosion-proof ventilation equipment. Ensure adequate ventilation, especially in confined areas. Eyewash fountain and emergency showers are recommended.

Individual Protection Measures

Eye/Face Protection

Avoid contact with eyes. Wear safety glasses with side shields (or goggles) and a face shield/mask.

Skin Protection

Avoid contact with skin. Wear coveralls, boots, gloves as needed to prevent skin exposure.

Respiratory Protection

If engineering controls and ventilation are not sufficient to control exposure to below limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Brown oily.
Odour	Aromatic
pH	10 - 11
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	180 - 320 °C
Flash Point	> 94 °C (closed cup)
Vapour Pressure	< 1.0 kPa
Vapour Density (air = 1)	4.5

Product Identifier: INVERT OIL-BASED MUD

Date of Preparation: October 21, 2016

Page 03 of 05

Relative Density (water = 1)	0.865 - 2.000
Solubility	Insoluble in water
Decomposition Temperature	Not available
Viscosity	> 4.6 centistokes (kinematic)
Other Information	
Physical State	Liquid
Bulk Density	Not available
Electrical Conductivity	Not available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Calcium chloride may form hydrogen chloride in presence of sulphuric or phosphoric acids.

Conditions to Avoid

Keep away from ignition sources (heat, sparks and open flame).

Incompatible Materials

Strong acids, strong oxidizers, metals, phosphorus, borane/boron oxides, bromine trifluoride, methyl vinyl ether.

Hazardous Decomposition Products

Hydrogen chloride.

SECTION 11. TOXICOLOGICAL INFORMATION

Target organs: skin, eyes, gastrointestinal tract, respiratory system, bone marrow, liver, central nervous system.

Likely Routes of Exposure

Skin contact; eye contact; inhalation; ingestion.

Acute Toxicity

Distillates petroleum

LC50 Inhalation Rat: 1700 mg/m³/4 hours

Distillates petroleum

LD50 Oral Rat:> 5000 mg/kg

Calcium Chloride

LD50 Oral Rat: 1000 mg/kg

Calcium hydroxide

LD50 Oral Mouse: 7300 mg/kg

Distillates petroleum

LD50 Dermal Rabbit: 2000 mg/kg

Skin Corrosion/Irritation

May cause skin irritation. Signs/symptoms may include localized redness, swelling and itching.

Serious Eye Damage/Irritation

Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing and blurred or hazy vision.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, nose and throat pain. Inhalation of calcium hydroxide can cause chemical bronchitis.

Ingestion

May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Prolonged or repeated contact may dry skin and cause irritation. Lungs may be affected by repeated or prolonged

Product Identifier: INVERT OIL-BASED MUD

Date of Preparation: October 21, 2016

Page 04 of 05

exposure to calcium hydroxide dust particles. This product contains polycyclic aromatic hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumors, anemia, disorders of the liver, bone marrow and lymphoid tissues.

Carcinogenicity

Distillates petroleum: OSHA Carcinogen

Polycyclic aromatic hydrocarbons: OSHA Carcinogen

No information was located for: Respiratory and/or Skin Sensitization, Development of Offspring, Sexual Function and Fertility, Effects on or via Lactation, Germ Cell Mutagenicity, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Containers should NOT be re-used. Empty containers contain residual hazardous materials and must be disposed of as if full. Dispose of in accordance with federal, provincial and local government regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS 1988 Classification



Class D2A; D2B

D2A - Very Toxic; D2B - Toxic (Skin irritant; Eye irritant)

SECTION 16. OTHER INFORMATION

SDS Prepared By Bri-Chem Supply Corp

Phone No. (403) 252-5904

Date of Preparation October 21, 2016

Additional Information This Health and Safety information is correct to the best of our knowledge and belief at the date of its publication, but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as guidance for safe handling, storage, and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment. Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet.

Product Identifier: INVERT OIL-BASED MUD

Date of Preparation: October 21, 2016

Page 05 of 05