



Section 1: IDENTIFICATION

Product Name: HP-FEMFS-1 V1
Synonyms: Not available.
Product Use: Oil and Gas Well Remediation.
Restrictions on Use: Not available.
Manufacturer/Supplier: RTB ChemTech Inc.
2001 Timberloch Place
Suite 500
The Woodlands, TX 77380
Phone Number: 346-625-5197
Emergency Phone: Contact phone 24/7: 346-625-5197
Date of Preparation of SDS: November 27, 2024

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Flammable Liquids, Category 3
Acute Toxicity - Oral, Category 3
Acute Toxicity - Dermal, Category 3
Acute Toxicity - Inhalation, Category 4
Skin Irritation, Category 2
Eye Damage, Category 1
Reproductive Toxicity, Category 1B
Specific Target Organ Toxicity (Single Exposure), Category 1
Specific Target Organ Toxicity (Single Exposure), Category 3 - Narcotic Effects

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements: Flammable liquid and vapor.
Toxic if swallowed.
Toxic in contact with skin.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye damage.
May damage fertility or the unborn child.
Causes damage to organs.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition



sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe mist, vapours, or spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing and eye protection.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 attention.
Immediately call a POISON CENTER or doctor.
Rinse mouth.
If skin irritation occurs: Get medical attention.
Take off immediately all contaminated clothing and wash it before reuse.
In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 13% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Ethanol, 2-butoxy-	2-Butoxyethanol	111-76-2	10 - 30
Methanol	Not available.	67-56-1	7 - 13
Poly(oxy-1,2-ethanediyl), alpha-hexyl-omega-hydroxy-	Not available.	31726-34-8	7 - 13

Actual concentration range(s) withheld as a trade secret.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately.
- Acute and delayed symptoms and effects:** Harmful if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Inhalation of high concentrations of 2-Butoxyethanol may have a narcotic effect. Inhalation of Methanol exerts toxic effects upon nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms parallel those of ingestion of Methanol. Inhalation of Methanol may worsen conditions such as emphysema or bronchitis.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
- Acute and delayed symptoms and effects:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.
- Skin Contact:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse.
- Acute and delayed symptoms and effects:** Toxic in contact with skin. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. 2-Butoxyethanol may be absorbed through the skin with possible systemic effects. Skin absorption of Methanol can occur; symptoms may parallel ingestion or inhalation exposure.
- Ingestion:** If swallowed: Rinse mouth. Immediately call a POISON CENTER or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If breathing or the heart stops, trained personnel should immediately begin artificial respiration (AR) or cardiopulmonary resuscitation (CPR) respectively. Get medical attention immediately. Swallowing Methanol is potentially life threatening. Onset of symptoms may be delayed for 18 to 24 hours after digestion.
- Acute and delayed symptoms and effects:** Toxic if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingesting even small amounts of methanol could potentially cause blindness or death. Effects of



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sub lethal doses may be nausea, headache, abdominal pain, vomiting, blurred vision, blindness, coma and death. A person may get better but then worse again up to 30 hours later.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately. Acute exposure to Methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of Ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum Bicarbonate levels are a more accurate measure of severity than serum Methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Flammable liquid and vapor. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: Take action to prevent static discharges. This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO2, water spray or alcohol-resistant foam.
Large Fire: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.



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- Unsuitable Extinguishing Media:** Use water spray or fog; do not use straight streams.
- Products of Combustion:** Oxides of carbon. Aldehydes.
- Protection of Firefighters:** TOXIC; may be fatal if inhaled, ingested or absorbed through skin. Inhalation or contact with some of these materials will irritate or burn skin and eyes. Fire will produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Section 6: ACCIDENTAL RELEASE MEASURES

- Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.
- Personal Precautions:** Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
- Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.
- Methods for Containment:** Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.
- Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.
- Other Information:** See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

- Handling:** Do not swallow. Do not breathe mist, vapours, or spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.



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Storage:

Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Keep storage area separate from populated work areas. Consider leak detection and alarm systems, as required. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component

2-Butoxyethanol [CAS No. 111-76-2]

- ACGIH:** 20 ppm (TWA); A3; BEI (2003)
- OSHA:** 50 ppm (TWA), 240 mg/m³ (TWA); Skin. 25 ppm (TWA) [Vacated];

Methanol [CAS No. 67-56-1]

- ACGIH:** 200 ppm (TWA); 250 ppm (STEL); Skin; BEI (2009)
- OSHA:** 200 ppm (TWA), 260 mg/m³ (TWA); 250 ppm (STEL); Skin. [Vacated];

Poly(oxy-1,2-ethanediyl), alpha-hexyl-omega-hydroxy- [CAS No. 31726-34-8]

- ACGIH:** No TLV established.
- OSHA:** No PEL established.

- PEL:** Permissible Exposure Limit
- TLV:** Threshold Limit Value
- TWA:** Time-Weighted Average
- STEL:** Short-Term Exposure Limit

Engineering Controls:

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection:

Wear chemical safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection:

Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection:

Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor cartridge, 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.

General Hygiene Considerations:

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid.
Colour:	Colourless.
Odour:	Alcohol.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH (5% solution):	7 to 8
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	33.9 °C (93 °F)
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Relative Vapor Density:	Not available.
Relative Density:	0.95 to 0.995 (Water = 1) at 24 °C (75.2 °F)
Solubilities:	Soluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Kinematic Viscosity:	Not available.



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Percent Volatile, wt. %: Not available.
VOC content, wt. %: Not available.
Density: 7.90 to 8.30 lb/gal
Coefficient of Water/Oil Distribution: Not available.
Particle Characteristics: Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability: Stable under normal storage conditions.
Possibility of Hazardous Reactions: Methanol may react with metallic Aluminum and generate Hydrogen gas. Will attack some forms of plastics, rubber, and coatings.
Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.
Dermal: Not available.
Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
2-Butoxyethanol	111-76-2	470 mg/kg (rat)	220 mg/kg (rabbit)	450 ppm (rat); 4H
Methanol	67-56-1	5628 mg/kg (rat)	15800 mg/kg (rabbit)	64000 ppm (rat); 4H
Poly(oxy-1,2-ethanediyl), alpha-hexyl-omega-hydroxy-	31726-34-8	Not available.	Not available.	Not available.

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.
Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: Harmful if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause



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headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Inhalation of high concentrations of 2-Butoxyethanol may have a narcotic effect. Inhalation of Methanol exerts toxic effects upon nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms parallel those of ingestion of Methanol. Inhalation of Methanol may worsen conditions such as emphysema or bronchitis.

Eye: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Skin: Toxic in contact with skin. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. 2-Butoxyethanol may be absorbed through the skin with possible systemic effects. Skin absorption of Methanol can occur; symptoms may parallel ingestion or inhalation exposure.

Ingestion: Toxic if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingesting even small amounts of methanol could potentially cause blindness or death. Effects of sub lethal doses may be nausea, headache, abdominal pain, vomiting, blurred vision, blindness, coma and death. A person may get better but then worse again up to 30 hours later.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Emphysema. Bronchitis.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Central nervous system. Cardiovascular system. Blood. Liver. Kidneys. Central nervous system. Immune system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. High vapour concentrations, generally greater than 10% by volume, may sensitize the heart and lead to lethal cardiac arrhythmias. Prolonged or repeated exposures to 2-Butoxyethanol can cause damage to the liver, kidneys, lymph system, blood and blood-forming organs. Repeated exposure to Methanol by inhalation or absorption may cause systemic poisoning, brain disorders, impaired vision and blindness.

Carcinogenicity: Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
2-Butoxyethanol	A3	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: May damage fertility or the unborn child.



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Developmental Effects

Teratogenicity: Possible risk of harm to the unborn child.

Embryotoxicity: Possible risk of harm to the unborn child.

Toxicologically Synergistic Materials: In animals, high concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins like Carbon tetrachloride. Ethanol significantly reduces the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat Methanol poisoning.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.
Persistence / Degradability: Not available.
Bioaccumulation / Accumulation: Not available.
Mobility in Environment: Not available.
Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1992, FLAMMABLE LIQUIDS, TOXIC, N.O.S. (2-Butoxyethanol, Methanol), 3 (6.1), PG III
Class: 3 (6.1)
UN Number: UN1992
Packing Group: III
Placard(s):



Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1992, FLAMMABLE LIQUIDS, TOXIC, N.O.S. (2-Butoxyethanol, Methanol), 3 (6.1), PG III
Class: 3 (6.1)
UN Number: UN1992
Packing Group: III
Placard(s):





Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Methanol	Not listed.	Not listed.	5000	313	U154	Not listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
2-Butoxyethanol	111-76-2	Listed.
Methanol	67-56-1	Listed.

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
2-Butoxyethanol	111-76-2	SHHS
Methanol	67-56-1	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
2-Butoxyethanol	111-76-2	Listed.
Methanol	67-56-1	E

Note: E = Environmental Hazard



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**California
California Prop 65:**



WARNING This product can expose you to chemicals including Acetaldehyde, Ethylene oxide, 1,4-Dioxane and Methanol, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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