

Section 1: Product & Company Information

Product Identifier: GeoChill+™ M-725, Geothermal Fluid

Other Means of Identification

Product Number: No data available.

Recommended Use and Restrictions on Use

Recommended Use: Methanol based Geothermal Fluid w/ Inhibitors and Buffers
Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Flammable, Liquids - 3

Health Hazard(s)

Acute Toxicity, Oral - 4
Acute Toxicity, Dermal - 4
Acute Toxicity, Inhalation - 4
Carcinogenicity - 2
Toxic to Reproduction - 2
Specific Target Organ Toxicity (STOT), Single exposure - 1

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)



Hazard Statement(s)

H226: Flammable liquid and vapor.
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H361: Suspected of damaging fertility or the unborn child.
H370: Causes damage to organs.

Precautionary Statements

General

P102: Keep out of reach of children.
P103: Read label before use.

Prevention

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.
 P241: Use explosion-proof electrical/ventilating/lighting/equipment.
 P242: Use only non-sparking tools.
 P243: Take precautionary measures against static discharge.
 P260: Do not breathe dust/fume/gas/mist/vapors/spray.
 P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264: Wash face, hands and any exposed skin thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P281: Use personal protective equipment as required.

Response

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
 P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 P307 + P311: IF exposed: Call a POISON CENTER or doctor/physician.
 P308 + P313: IF exposed or concerned: Get medical advice/attention.
 P312: Call a POISON CENTER or doctor/physician if you feel unwell.
 P321: Specific treatment (see supplemental first aid instructions on this label).
 P322: Specific measures (see supplemental first aid instructions on this label).
 P330: Rinse mouth.
 P363: Wash contaminated clothing before reuse.
 P370 + P378: In case of fire: Use suitable extinguishing media for extinction.

Storage

P403 + P235: Store in a well-ventilated place. Keep cool.
 P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Mixture

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Methyl Alcohol	Methanol	67-56-1	18-25%	No
Proprietary Corrosion Inhibitor ¹	-	-	.05 – 1.5%	No

- Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- “—”Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move out of dangerous area.

Inhalation

If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin Contact

If on skin, rinse well with water. If on clothes, remove clothes.

Eye Contact

Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing.

Ingestion

Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

Most important symptoms/effects, acute and delayed

Symptoms

No data available.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

No data available.

Section 5: Fire-Fighting Measures

General Fire Hazards

Flammable liquid and vapor.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Alcohol-resistant foam, Carbon dioxide (CO₂), Dry chemical

Unsuitable Extinguishing Media

Avoid water in straight hose stream; will scatter and spread fire.

Specific Hazards Arising from the Chemical

Do not allow run-off from firefighting to enter drains or water courses.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and Materials for Containment and Clean-Up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13)

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Section 7: Handling and Storage

Precautions for Safe Handling

Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating, and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Conditions for Safe Storage, including any Incompatibilities

No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Methanol (CAS # 67-56-1)	TWA	200 ppm	US. ACGIH Threshold Limit Values
Methanol (CAS # 67-56-1)	STEL	250 ppm	US. ACGIH Threshold Limit Values
Methanol (CAS # 67-56-1)	TWA	200 ppm 260 mg/m ³	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

No personal respiratory protective equipment normally required. In the case of vapor formation use a respirator with an approved filter.

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Liquid
Color: Blue

Odor:

Mild

Odor Threshold:

No data available.

pH:

No data available.

Melting Point/Freezing Point:

-18°C / 0°F

Initial Boiling Point and Boiling Range:

No data available.

Flash Point:

43°C / 110°F

Evaporation Rate (butyl acetate=1):

No data available.

Flammability (solid, gas):

No data available.

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available.

Flammability Limit – Lower: No data available.

Explosive Limit – Upper: No data available.

Explosive Limit – Lower: No data available.

Vapor Pressure:

95.26 mmHg @ 25 °C (77 °F)

Vapor Density (air =1):

No data available.

Relative Density (water=1):

No data available.

Solubility(ies):

Solubility in water: No data available.

Solubility (other): No data available.

Partition coefficient (n-octanol/water):

No data available.

Auto-ignition Temperature:

No data available.

Decomposition Temperature:

No data available.

Viscosity:

No data available.

Other Information:

Molecular Weight: No data available.

Formula: No data available.

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

Vapors may form explosive mixture with air.

Conditions to Avoid

Heat, sparks, flames. Moisture. Contact with incompatible materials.

Incompatible Materials

No data available.

Hazardous Decomposition Products

No data available.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Toxic if swallowed.

Inhalation: Toxic if swallowed.

Skin Contact: Toxic if swallowed.
Eye Contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Methyl Alcohol: LD 50 (Rat): 5,628 mg/kg
Methyl Alcohol: LD 50 (Mouse): 7,300 mg/kg
Methyl Alcohol: LD 50 (Rabbit): 14,300 mg/kg

Dermal

Methyl Alcohol: LD 50 (Rabbit): 15,800 mg/kg

Inhalation

Methyl Alcohol: LC 50 (Rat, 1 h): > 145000 ppm
Methyl Alcohol: LC 50 (Rat, 4 h): 64000 ppm

Repeated Dose Toxicity

In serious cases absorption of methanol in the body may lead to damage to the eyesight.

Skin Corrosion/Irritation

Causes skin irritation.

Serious Eye Damage/Eye Irritation

Causes eye irritation.

Respiratory/Skin Sensitization

Not a skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity – Single Exposure

Eyes, Central nervous system.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Methyl Alcohol: LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): > 100 mg/l

Aquatic Invertebrates

Methyl Alcohol: EC 50 (Water flea (*Daphnia magna*), 48 h): > 10,000 mg

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

There are no data on the degradability of this product.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN1993
UN Proper Shipping Name: Flammable liquids, n.o.s.
Technical Name: (Contains Methanol)
Hazard Class: 3
Subsidiary Hazard Risk: -
Packing Group: II
DOT Label/Placard Exemptions: Not determined
Special Provisions: IB2, T7, TP1, TP8, TP28
Packaging Exceptions: 49CFR 173.150
Packaging Non-Bulk: 49CFR 173.202
Packaging Bulk: 49CFR 173.242
Reportable Quantity (RQ): 5000lb (2270kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 128

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:
Methyl Alcohol (CAS# 67-56-1)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: Yes
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 313:
Methyl Alcohol (CAS# 67-56-1)

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 2

Chronic Health Hazard: *

Flammability: 2

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 2

Fire Hazard: 2

Reactivity Hazard: 0

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL - Immediately Dangerous to Life and Health

Kg - Kilogram

l - Liter

lb - Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ml - milliliter

N/A - Not Applicable

N/D - Not Determined

PEL - Permissible Exposure Limit

REL - Recommended Exposure Limit

STEL - Short-term Exposure Limit

TWA - Time weighted average

ACGIH - American Conference of Industrial Hygienists

AIHA - American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS - Chemical Abstracts Service

DOT - US Department of Transportation

EPA - US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labeling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

IMDG - International Maritime Dangerous Goods

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - US Occupational Health and Safety Administration

SARA - US EPA Superfund Amendments and Reauthorization Act

TSCA - US EPA Toxic Substances Control Act

UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

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