

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME:-----> **Methyl Tertiary Butyl Ether**
(All Grades)

PRODUCT NUMBER(S):-----> 199300, 199305, 199307, 199310, 199315

TRADE NAMES/SYNONYMS:-----> High purity tert-Butyl Methyl Ether,
MTBE, 2-methoxy-2-methylpropane

CAS-No: 1634-04-4

CHEMICAL FAMILY: Ethers

1.2 RELAVENT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

IDENTIFIED USES: Industrial: Manufacture of other substances. Laboratory chemicals. Use as a fuel, Uses in coatings, Use of neat MTBE as an intermediate, Use of MTBE as a fuel additive, Rubber production and processing, Use as a process solvent and extraction agent, Use in cleaning agents, Distribution of substance.

USES ADVISED AGAINST: Not for food, drug, pesticide or biocidal product use. Uses with intended emissions in water should be avoided.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: **40 VERONICA AVENUE
SOMERSET, NJ 08873**

Telephone: **1-973-589-1450**

Fax: **1-973-589-3072**

1.4 Emergency Telephone Number

Emergency Phone: **1-800-424-9300 (CHEMTREC)**

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910

Flammable liquids (Category 2), H225

Skin irritation (Category 2), H315

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word: **DANGER**

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

Precautionary statement(s)

Prevention:

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.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P321 Specific treatment (see supplemental first aid instructions on this label).

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS: None

3. INGREDIENTS

3.1 SUBSTANCES:

Ingredient	CAS No.	% by WT. Range	CLASSIFICATION
Methyl t-Butyl Ether	1634-04-4 EC-No.216-653-1 Index-No.603-181-00-X Reg.-No. 01-2119452786-27-XXXX	99.9	Flammable liquids (Category 2), H225 Skin irritation (Category 2), H315

3.2 MIXTURES: Not applicable.

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: Methyl Tertiary Butyl Ether

****FIRST AID- Remove from exposure to fresh air, restore breathing use oxygen if needed. Keep warm and quiet. Immediately notify a physician.**

EYE CONTACT (Splash): Methyl Tertiary Butyl Ether

****FIRST AID- Immediately flush eyes with water for 15 minutes. Hold eyelids open for complete irrigation. Remove contact lenses, if worn, after initial flush. Immediately take to a physician.**

SKIN CONTACT (Splash): Methyl Tertiary Butyl Ether

****FIRST AID- Wash affected area with soap and large amounts of water. Remove contaminated clothing and shoes. Consult a physician if irritation persists.**

INGESTION: Methyl Tertiary Butyl Ether

****FIRST AID- Do NOT induce vomiting of conscious patient. Risk of damage to lungs exceeds poisoning risk. Never give anything by mouth to an unconscious person. Consult a physician or poison control center, treat symptomatically.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Eye> Irritant, consisting of reversible redness, swelling and mucous discharge.;

Skin> Moderate irritation, not expected to be a skin absorption hazard or a sensitizer;

Inhalation> Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.

Ingestion> May cause discomfort and irritation of the gastrointestinal tract and CNS Depression. Aspiration into the lung may cause fatal chemical pneumonia.

Chronic: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Typical symptoms are cardiovascular disorders, sweetish taste in the mouth, nausea, vomiting, loss of appetite, strong thirst, burning of eyes and bleeding from the nose. Damage may occur to the kidney or liver.

Medical Conditions Aggravated by Exposure> This material may aggravate pulmonary/bronchial disease and/or cause breathing difficulty. May aggravate skin conditions such as dermatitis.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Specific details on antidote: No recommendation given.

5. FIRE FIGHTING MEASURES

Flash Point: -33°C (-27.4°F TCC)

LEL %:1.6(V)

Auto-ignition Temp: 374°C (705.2°F)

UEL %:15.1(V)

UNIFORM FIRE CODE: Flammable Liquid Class 1B

5.1 SUITABLE EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM. FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM. ALCOHOL FOAM

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE.

Extremely Flammable liquid; Releases flammable vapors below normal ambient temperatures. Vapors can burn in air or explode if confined. This product burns with blue flame, which is less visible than other petroleum hydrocarbons. Fight fire from maximum distance or use unmanned hose holders. Stay away from tanks engulfed in flame. Keep containers tightly closed. Isolate from all sources of ignition. Closed containers may explode when exposed to extreme heat.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS:

Shut off source. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind Do not spray pool fires directly. A solid stream of water or foam directed into hot burning liquid can cause frothing. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. For large fires, withdraw

immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1990 Emergency Response Guidebook, DOT P 1800.5, guide page 26). Water fog may be used to cool closed containers to prevent pressure build up and possible auto ignition or explosion when exposed to extreme heat.

For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Cool containers with water-fog from as far a distance as possible. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Extremely Flammable; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations. For large spills evacuate downwind areas as conditions warrant to prevent exposure and to allow vapors or fumes to dissipate.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for cleanup and containment:

Use explosion proof equipment. Shut off valves, contain spill, for small spills add non-flammable absorbent in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations.

REPORTABLE QUANTITY (RQ): 1000 POUNDS

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8882 or (202) 426-2675 in the

metropolitan Washington, D. C. area (40 CFR 302.6).

6.4 **REFERENCE TO OTHER SECTIONS:** See Sections 8 and 13.

7. **HANDLING AND STORAGE**

7.1 **PRECAUTIONS FOR SAFE HANDLING:** This material presents a fire hazard. Liquid quickly evaporates and forms vapor (fumes), which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

Advice on general occupational hygiene:

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 “Flammable and Combustible Liquids” and National Fire Protection Association (NFPA 77) “Recommended Practice on Static Electricity”.

7.2 **CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally.
Storage class (TRGS 510): 3: Flammable liquids

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

Ingredient	CAS No.	% by WT. Range	Exposure Limits
Methyl t-Butyl Ether	1634-04-4 EC-No.216-653-1 Index-No.603-181-00-X Reg.-No. 01-2119452786-27-XXXX	99.9	50ppm TWA (ACGIH) 40ppm PEL (California)

Key: (PEL) = Permissible Exposure Limit OSHA
 (TLV) = Threshold Limit Value OSHA & ACGIH
 (STEL) = Short Term Exposure Limit ACGIH
 (WEEL) = USA. Workplace Environmental Exposure Levels
 (TWA) = Time Weighted Average
 CAS = Chemical Abstracts Registry Number
 IDLH = Immediate Danger to Life and Health
 N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION: For vapor concentrations 1 to 8 times ACGIH TWA an air purifying NIOSH/MSHA Approved respirator with full face-piece and organic vapor cartridges. For concentrations over 8 times ACGIH TWA, in confined areas, and/or where vapor concentrations are unknown use a NIOSH approved positive pressure full face-piece supplied air respirator.

50-400 PPM- Any chemical cartridge respirator with organic vapor cartridge(s).

Any powered, air-purifying respirator with organic vapor cartridge(s).
Any supplied-air respirator.

Any self-contained breathing apparatus.

400 PPM- Any supplied-air respirator operated in a contained-flow mode.

500 PPM- Any air-purifying full-face piece respirator (gas mask) with a chin style, front- or back-mounted organic vapor canister.

Any self-contained breathing apparatus with a full-face piece.

Any supplied-air respirator with a full-face piece.

1,000 PPM- Any supplied-air respirator that has a full-face piece and is operated in a pressure-demand or other positive-pressure mode.

ESCAPE- Any air-purifying, full-face piece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

BODY CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

SKIN PROTECTION: Employee must wear appropriate protective gloves to prevent contact with this substance.

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 230 min

Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.

Emergency shower and eyewash should be easily accessible to the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Methyl Tert-Butyl Ether 1634-04-4

Appearance-----> Clear liquid

Color-----> Colorless

Odor-----> Turpentine-like odor

Odor Threshold----- > 0.053ppm

pH-----> No data available

Molecular Weight-----> 88.15amu

Melting/Freezing Point-----> No data available
Boiling Range -----> 55 - 56 °C (131 - 133 °F)
Specific Gravity-----> 0.74 @25°C
Vapor Pressure-----> 209.4 mmHg@20°C (68°F)
Vapor Density (air=1)-----> 3.1
Water Solubility-----> 5.0%@20°C
Partition Coefficient n-Octanol/Water-> log Pow: 1.77
Evaporation Rate (Butyl Acetate=1)----> No data available
Flash Point-----> -33.0 °C (-27.4 °F) - closed cup
Upper Flammability Limit-----> 15.1% (V)
Lower Flammability Limit-----> 1.6% (V)
Auto-Ignition Temperature-----> 374.0 °C (705.2 °F)
Decomposition Temperature-----> No data available
Viscosity-----> No data available

Explosive Properties-----> No data available
Oxidizing Properties-----> No data available

9.2 Other Information-----> No data Available

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)
Stable under normal temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: Vapors may form flammable mixtures with air. Violent reaction with: Strong oxidizer, Strong alkali, Strong acid.

HAZARDOUS POLYMERIZATION: May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame. Extremes of temperature and direct sunlight.

10.5 INCOMPATIBLE MATERIALS: Strong oxidants such as liquid chlorine, oxygen, sodium hypochlorite, inorganic acids e.g. nitric acid, perchloric acid and hydrogen peroxide. Avoid aluminum and lead

10.6 HAZARDOUS DECOMPOSITION PRODUCTS: Fumes, Smoke, Carbon Monoxide, Aldehydes and other decomposition products where combustion is not complete.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Eye> Irritant, consisting of reversible redness, swelling and mucous discharge.;

Skin> Moderate irritation, not expected to be a skin absorption hazard or a sensitizer;

Inhalation> Irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.

Ingestion> May cause discomfort and irritation of the gastrointestinal tract and CNS Depression. Aspiration into the lung may cause fatal chemical pneumonia.

Chronic: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Typical symptoms are cardiovascular disorders, sweetish taste in the mouth, nausea, vomiting, loss of appetite, strong thirst, burning of eyes and bleeding from the nose. Damage may occur to the kidney or liver.

Medical Conditions Aggravated by Exposure> This material may aggravate pulmonary/bronchial disease and/or cause breathing difficulty. May aggravate skin conditions such as dermatitis.

ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50 (Rat)	Skin LD50 (Rabbit)	Inhalation LC50
Methyl tert-Butyl Ether	4000mg/kg	>10000mg/kg	23576ppm/4hr

| | | |

SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Skin irritation

SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: No eye irritation

RESPIRATORY OR SKIN SENSITIZATION: Will not occur

MUTAGENIC EFFECTS: No data available

CARCINOGEN STATUS: IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (tert-Butyl methyl ether)

NTP: 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.

OSHA: 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.

ACGIH lists it material as an A3 animal carcinogen.

MTBE (methyl-tert-butyl ether) should be considered a "potential human carcinogen" due to an increase in leydig interstitial cell tumors of testes in male rats and an increase in lymphomas, leukemias, and uterine sarcomas in female rats., In another unpublished study MTBE was shown to be carcinogenic due to "increased incidence of a rare type of kidney tumor" in male rats and an "increase in the incidence of hepatocellular adenomas" in female mice. Studies in experimental animals have found only limited evidence for the carcinogenicity for MTBE.

REPRODUCTIVE TOXICITY: No data available

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No data available

ADDITIONAL INFORMATION: Nausea, Vomiting, Dizziness, Central nervous system depression, Aspiration or inhalation may cause chemical pneumonitis., MTBE (methyl-tert-butyl ether) is reported to metabolize to tert-butyl alcohol and formaldehyde by microsomal demethylation.

RTECS: KN5250000

12. ECOLOGICAL INFORMATION

12.1 AQUATIC TOXICITY (Acute):

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 672.00 mg/l - 96 h
LC50 - other fish - > 1,000.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 472 mg/l - 48 h
Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 491 mg/l - 96 h

12.2 PERSISTANCE AND DEGRADABILITY:

Readily biodegradable, according to OECD Test Guideline 301D

12.3 BIOACCUMULATIVE POTENTIAL: Log octanol/water partition coefficient of 1.77
Slight bioaccumulation

Bioconcentration Factor (BCF): <1.5

12.4 MOBILITY IN SOIL: No data available.

12.5 RESULTS OF PBT AND vPvB : PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 OTHER ADVERSE EFFECTS: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations. Incinerate under controlled conditions in a permitted facility.

CONTAMINATED PACKAGING: Dispose of as unused product

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID numbers are: D001 and D002

If the waste is a spent solvent, the appropriate spent solvent code should be used.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

14.1 USDOT ID Number-----> UN2398

14.2 USDOT Shipping Name-----> Methyl tert-butyl ether

- 14.3 USDOT Hazard Classification-----> 3 (Flammable Liquid)
 USDOT Label Codes-----> 3 (Flammable Liquid)
- 14.4 USDOT Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> None
 Emergency Response Guide-----> 127
 Reportable quantity-----> 1000lbs.

Sea Transport (IMDG)

- 14.1 ID Number-----> UN2398
- 14.2 Proper shipping name-----> METHYL tert-BUTYL ETHER
- 14.3 Hazard Classification-----> 3 (Flammable Liquid))
 Label Codes-----> 3 (Flammable Liquid0
- 14.4 Package Code-----> II
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> Yes
 EMS-Number-----> F-E, S-D

Air Transport (IATA)

- 14.1 ID Number-----> UN2398
- 14.2 Proper shipping name-----> Methyl tert-butyl ether
- 14.3 Hazard Classification-----> 3 (Flammable Liquid)
 Label Codes-----> 3 (Flammable Liquid)
- 14.4 Package Code-----> II
- 14.5 Environmental hazard-----> None
- 14.6 Special precautions for user-----> None

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

**SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed
Methyl tertiary-Butyl Ether CAS1634-04-4**

SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard, Fire Hazard.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability

Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed
Methyl tertiary-Butyl Ether CAS1634-04-4 Reportable Quantity - 1,000 pounds.
SECTION 101(14) Reportable Quantity: 1,000 lbs

Massachusetts Right to Know Components

tert-Butyl methyl ether CAS-No.1634-04-4

Pennsylvania Right to Know Components

tert-Butyl methyl ether CAS-No.1634-04-4

New Jersey Right to Know Components

tert-Butyl methyl ether CAS-No.1634-04-4

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA (Toxic Substance Control Act)

Methyl tertiary-Butyl Ether CAS1634-04-4 is listed on the TSCA Inventory.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemicals Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION:

HMIS (Hazardous Materials Identification System)

Hazard Rating:

4-Extreme

3-High

2-Moderate

1-Slight

0-Insignificant

NFPA RATINGS (SCALE 0-4): Health=2 Fire=3 Reactivity=0
HMIS RATINGS (SCALE 0-4): Health=2 Fire=3 Reactivity=0 PPE=H

Hazard statement(s) from Section 2 and 3:

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

Date of preparation-----> March 1, 2005

Revision Number-----> 1.6

Revision content-----> Updated Sections: 1, 3, 4, 5, 8, 10, 11, 12, and 16

Revision Date-----> April 12, 2019

Prepared by-----> T.G. Fenstermaker, Jr.

Acronyms:

ACGIH - American Conference of Governmental Industrial Hygienists
AIHA - American Industrial Hygiene Association
ANSI - American Nation Standards Institute
API - American Petroleum Institute
CERCLA - Comprehensive Emergency Response, Compensation, and Liability Act
DOT - U.S. Department of Transportation
EPA - U.S. Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency For Research On Cancer
MSHA - Mine Safety and Health Administration
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOIC - Notice of Intended Change (Proposed change to ACGIH TLV)
NTP - National Toxicology Program
OPA - Oil Pollution Act of 1990
OSHA - U.S. Occupational Safety & Health Administration
PEL - Permissible Exposure Limit (OSHA)
RCRA - Resource Conservation and Recovery Act
REL - Recommended Exposure Limit (NIOSH)
SARA - Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA - Self-Contained Breathing Apparatus
STEL - Short-Term Exposure Limit (generally 15 minutes)
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average (8hr.)
WHMIS - Canadian Workplace Hazardous Materials Information System

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for use or reliance upon same. Users are encouraged to conduct their own tests. Before using any product, read its label. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.