

1. Identification

Product identifier MTBE

Other means of identification
CAS number 1634-04-4

Recommended use General purpose solvent.

Recommended restrictions Use in accordance with manufacturer's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company Name Greenfield Global USA Inc. (The technical data referenced below applies to products sold by Greenfield Global Inc., under the names Greenfield Global, Pharmco, and Commercial Alcohols.)

Address 58 Vale Road
Brookfield, CT 06804
USA

Telephone 203.740.3471
Fax 203.740.3481

Company Name Greenfield Global USA Inc.

Address 1101 Isaac Shelby Drive
Shelbyville, KY 40065
USA

Telephone 502.232.7600

Emergency phone number

USA CHEMTREC: +1.800.424.9300 (CCN 17213)
International CHEMTREC: +1.703.527.3887 (CCN 17213)

2. Hazard(s) identification

Hazards for the product as sold

Physical hazards Flammable liquids Category 2

Hazards for the product as sold

Health hazards Skin corrosion/irritation Category 2
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Specific target organ toxicity, single exposure Category 3 narcotic effects

Hazards for the product as sold

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Causes skin irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention

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/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist/vapors. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water. 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 skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

Storage

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

Disposal

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

Hazard(s) not otherwise classified (HNOC)

No additional hazards are known to be associated with the expected conditions of use at the time of publication. This document does not address hazards that may arise from uses not reasonably anticipated by the manufacturer.

Supplemental information

None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
tert-Butyl methyl ether		1634-04-4	100

Composition comments

All concentrations are in percent by weight.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

May cause drowsiness or dizziness. Headache. Nausea, vomiting. Direct contact with eyes may cause temporary irritation. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values (TLV)

Material	Type	Value
tert-Butyl methyl ether (CAS 1634-04-4)	TWA	50 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles and face shield are recommended.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Appropriate respirator selection should be made by a qualified professional.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not 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.

9. Physical and chemical properties

Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Not available.
Melting point/freezing point	-163.48 °F (-108.6 °C)
Boiling point or initial boiling point and boiling range	131 °F (55 °C)
Flammability	Highly flammable liquid
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1.6 % v/v
Explosive limit - upper (%)	8.4 % v/v
Flash point	-16.6 °F (-27 °C)
Auto-ignition temperature	815 °F (435 °C)
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	0.409 mm ² /s
Kinematic viscosity temp	104 °F (40 °C)
Solubility	
Solubility (water)	Property has not been measured
Partition coefficient (n-octanol/water)	0.94
Vapor pressure	270 hPa
Vapor pressure temp.	68 °F (20 °C)
Density and/or relative density	
Density	Not available.
Relative density	0.74
Relative density temperature	77 °F (25 °C)
Vapor density	Not available.
Particle characteristics	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness or dizziness. Headache. Nausea, vomiting. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
tert-Butyl methyl ether (CAS 1634-04-4)		
Acute		
Dermal		
LD50	Rabbit	> 10000 mg/kg
Inhalation		
<i>Vapor</i>		
LC50	Rat	85 mg/l, 4 Hours
Oral		
LD50	Rat	3800 mg/kg
Chronic		
Inhalation		
<i>Vapor</i>		
NOAEC	Rat	797 ppm
Oral		
NOAEL	Rat	209 mg/kg bw/day

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

tert-Butyl methyl ether (CAS 1634-04-4) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
tert-Butyl methyl ether (CAS 1634-04-4)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	472 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	672 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	NOEC	Daphnia magna	51 mg/l, 21 days

Persistence and degradability No data is available on the degradability of this substance.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
0.94

Mobility in soil No data available.

Other adverse effects No data available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2398
UN proper shipping name	Methyl tert-butyl ether (RQ = 1000 lbs)
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN2398
UN proper shipping name	Methyl tert-butyl ether
Transport hazard class(es)	
Class	3
Subsidiary hazard	-

Packing group II
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN2398
UN proper shipping name METHYL tert-BUTYL ETHER
Transport hazard class(es)
Class 3
Subsidiary hazard -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-E, S-D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Not established.

IMO instruments

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) This substance is on the TSCA 8(b) inventory and is designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

tert-Butyl methyl ether (CAS 1634-04-4)

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
tert-Butyl methyl ether	1634-04-4	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

tert-Butyl methyl ether (CAS 1634-04-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

tert-Butyl methyl ether (CAS 1634-04-4)

US. Massachusetts RTK - Substance List

tert-Butyl methyl ether (CAS 1634-04-4)

US. New Jersey Worker and Community Right-to-Know Act

tert-Butyl methyl ether (CAS 1634-04-4)

US. Pennsylvania Worker and Community Right-to-Know Law

tert-Butyl methyl ether (CAS 1634-04-4)

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 22-January-2019

Revision date 02-January-2026

Version # 02

HMIS® ratings
 Health: 2
 Flammability: 3
 Physical hazard: 0

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