

MSDS for tert-Butyl methyl ether, 99%

**** MATERIAL SAFETY DATA SHEET ****

tert-Butyl methyl ether, 99%

ACROS00978

Section 1 - Chemical Product and Company Identification

MSDS Name	tert-Butyl methyl ether, 99%
Catalog Numbers	17704-0000, 17704-0010, 17704-0025, 17704-2500
Synonyms	Methyl tert-butyl ether ; MTBE ; 2-Methyl-2-methoxy propane
Company Identification (Europe)	Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium
Company Identification (USA)	Acros Organics One Reagent Lane Fairlawn, NJ 07410
For information in North America, call	800-ACROS-01
For information in Europe, call	0032(0) 14575211
For emergencies in the US, call CHEMTREC	800-424-9300
For emergencies in Europe, call	0032(0) 14575299

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	%	EINECS#
1634-04-4	tert-Butyl methyl ether	99%	216-653-1

Hazard Symbols: XI F

Risk Phrases: 11 38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Irritating to skin.

POTENTIAL HEALTH EFFECTS

Eye	May cause eye irritation. Causes redness and pain.
Skin	Causes skin irritation. May be absorbed through the skin. Causes symptoms similar to those of inhalation.
Ingestion	Aspiration hazard. May cause unconsciousness. May cause central nervous system effects. May cause headache, nausea, fatigue, and dizziness.
Inhalation	May cause respiratory tract irritation. Exposure produces central nervous system depression. May cause headache. Inhalation of vapors may cause nausea, vomiting, dizziness, and loss of consciousness.
Chronic	Repeated inhalation may cause nasal and tracheal inflammation. Chronic exposure may cause liver damage.

Section 4 - First aid Measures

Eyes	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin	Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion	Possible aspiration hazard. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Containers may explode in the heat of a fire. Flammable Liquid.

Extinguishing Media Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.

Section 6 - Accidental Release Measures

General Information Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks Absorb spill with inert material, (e.g., vermiculite, dry sand or earth), then place into a chemical waste container. Do not use combustible materials such as saw dust. Avoid runoff into storm sewers and ditches which lead to waterways. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Use a spark-proof tool.

Section 7 - Handling and Storage

Handling Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Do not breathe dust, vapor, mist, or gas. Take precautionary measures against static discharges.

Storage Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Wear chemical goggles.

Skin Wear appropriate protective gloves to prevent skin exposure.

Clothing Wear appropriate protective clothing to prevent skin exposure.

Respirators Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State Clear liquid

Appearance colourless

Odor turpentine - mild odor

pH Not available.

Vapor Pressure 268 mbar @ 20 deg C

Viscosity 0.36 mPas 20 de

Boiling Point 55.3 deg C @ 760 mmHg

Freezing/Melting Point -109 deg C

Autoignition Temperature 460 deg C (860.00 deg F)

Flash Point -28 deg C (-18.40 deg F)

Explosion Limits, lower 1.60 vol %

Explosion Limits, upper 15.10 vol %

Decomposition Temperature

Solubility 51 g/l in water (20°C)

Specific Gravity/Density 0.7404g/cm3

Molecular Formula C5H12O

Molecular Weight 88.15

Section 10 - Stability and Reactivity

Chemical Stability Stable.

Conditions to Avoid Incompatible materials, light, ignition sources, excess heat.

Incompatibilities with Other Materials

Oxidizing agents, strong acids, amines, ammonia, chlorinated solvents, plastics, aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide).

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, peroxides, formic acid, butyl formate, methyl radicals, acetone.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information**RTECS#**

CAS# 1634-04-4 unlisted.

LD50/LC50

CAS# 1634-04-4: Inhalation, mouse: LC50 = 141 gm/m³/15M; Inhalation, rat: LC50 = 23576 ppm/4H; Oral, mouse: LD50 = 5960 uL/kg; Oral, rat: LD50 = 4 gm/kg.

Carcinogenicity

tert-Butyl methyl ether - ACGIH: A3 - animal carcinogen IARC: Group 3 carcinogen See actual entry in RTECS for complete information.

Section 12 - Ecological Information**Ecotoxicity**

Fish: Leuciscus idus: LC50 : > 100 mg/l; 48H; .Bacteria: Pseudomonas putida: EC10 : ca. 700 mg/l; 18H; Bringmann-Kühn test Daphnia: Daphnia: EC50 : 651 mg/l; 48H; .log POW = 1,06

Other

Avoid entering into waters or underground water. Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	METHYL-tert-BUTYL ETHER	METHYL-tertiary-BUTYL ETHER	METHYL-tert-BUTYL ETHER
Hazard Class:	3	3.1	-
UN Number:	2398	2398	2398
Packing Group:	II	II	-
Dangerous Goods Code:	-	-	3(3B)

Section 15 - Regulatory Information**European/International Regulations****European Labeling in Accordance with EC Directives**

Hazard Symbols: XI F

Risk Phrases:

R 11 Highly flammable.

R 38 Irritating to skin.

Safety Phrases:

S 9 Keep container in a well-ventilated place.

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 37 Wear suitable gloves.

WGK (Water Danger/Protection)

CAS# 1634-04-4: 1

United Kingdom Occupational Exposure Limits

CAS# 1634-04-4: OES-United Kingdom, TWA 25 ppm TWA; 92 mg/m³ TWA

CAS# 1634-04-4: OES-United Kingdom, STEL 75 ppm STEL; 275 mg/m³ STEL

Canada

CAS# 1634-04-4 is listed on Canada's DSL List.

CAS# 1634-04-4 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 1634-04-4: OEL-CZECHOSLOVAKIA:TWA 100 mg/m³;STEL 200 mg/m³

OEL-RUSSIA:STEL 100 mg/m³

US FEDERAL**TSCA**

CAS# 1634-04-4 is listed on the TSCA inventory.

Section 16 - Additional Information**MSDS Creation Date**

7/16/1996

Revision #1 Date

5/23/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages. -----