

# Chem-Impex International Inc.

Tel: (630) 766-2112

E-mail: [sales@chemimpex.com](mailto:sales@chemimpex.com)

Shipping and Correspondence:

935 Dillon Drive

Wood Dale, IL 60191 USA

Fax: (630) 766-2218

Web site: [www.chemimpex.com](http://www.chemimpex.com)

Manufacturing site:

825 Dillon Drive

Wood Dale, IL 60191 USA

## SAFETY DATA SHEET

### SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 03665

NAME: *tert*-Butyl methyl ether

SYNONYMS: Methyl *tert*-butyl ether

24 HOUR EMERGENCY TELEPHONE: (800) 535-5053(USA)  
352-323-3500 (INTERNATIONAL)

TO REQUEST AN MSDS: (800) 869-9290

CUSTOMER SERVICE: (630) 766-2112

### SECTION 2. HAZARDS IDENTIFICATION

#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

#### GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

FLAMMABLE LIQUIDS (CATEGORY 2), H225

SKIN IRRITATION (CATEGORY 2), H315

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

#### GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM



SIGNAL WORD DANGER

**HAZARD STATEMENT(S)**

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR  
H315 CAUSES SKIN IRRITATION.

**PRECAUTIONARY STATEMENT(S)**

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 THOROUGHLY AFTER HANDLING.  
P280 WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE  
PROTECTION.  
P303 + P361 + P353 IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL  
CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER.  
P332 + P313 IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/  
ATTENTION.  
P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-  
RESISTANT FOAM TO EXTINGUISH.  
P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL  
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE  
DISPOSAL PLANT.

**HAZARDS NOT  
OTHERWISE  
CLASSIFIED  
(HNOC) OR NOT  
COVERED BY  
GHS** -

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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MF: C<sub>5</sub>H<sub>12</sub>O  
MW: 88.15  
CAS-NO. 1634-04-4  
PURITY: ≥ 99% (GC)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
TERT-BUTYL METHYL ETHER	FLAM. LIQ. 2; SKIN IRRIT. 2;	<= 100 %

	H225, H315	
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FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

#### **SECTION 4. FIRST-AID MEASURES**

##### **DESCRIPTION OF FIRST AID MEASURES**

<b>GENERAL ADVICE</b>	SHOW THIS MATERIAL SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.
<b>IF INHALED</b>	AFTER INHALATION: FRESH AIR. CALL IN PHYSICIAN.
<b>IN CASE OF SKIN CONTACT</b>	IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER
<b>IN CASE OF EYE CONTACT</b>	AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. CALL IN OPHTHALMOLOGIST. REMOVE CONTACT LENSES.
<b>IF SWALLOWED</b>	AFTER SWALLOWING: CAUTION IF VICTIM VOMITS. RISK OF ASPIRATION! KEEP AIRWAYS FREE. PULMONARY FAILURE POSSIBLE AFTER ASPIRATION OF VOMIT. CALL A PHYSICIAN IMMEDIATELY
<b>MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED</b>	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.
<b>INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED</b>	NO DATA AVAILABLE

#### **SECTION 5. FIRE AND EXPLOSION DATA**

##### **EXTINGUISHING MEDIA**

<b>SUITABLE EXTINGUISHING MEDIA</b>	SUITABLE EXTINGUISHING MEDIA CARBON DIOXIDE (CO2) FOAM DRY POWDER
	UNSUITABLE EXTINGUISHING MEDIA FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF EXTINGUISHING AGENTS ARE GIVEN.

<b>SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE</b>	COMBUSTIBLE. PAY ATTENTION TO FLASHBACK. VAPOURS ARE HEAVIER THAN AIR AND MAY SPREAD ALONG FLOORS. DEVELOPMENT OF HAZARDOUS COMBUSTION GASES OR VAPOURS POSSIBLE IN THE EVENT OF FIRE. FORMS EXPLOSIVE MIXTURES WITH AIR AT AMBIENT TEMPERATURES.
<b>HAZARDOUS COMBUSTION PRODUCTS</b>	CARBON OXIDES
<b>ADVICE FOR FIREFIGHTERS</b>	IN THE EVENT OF FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS.
<b>FURTHER INFORMATION</b>	REMOVE CONTAINER FROM DANGER ZONE AND COOL WITH WATER. PREVENT FIRE EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.
<b>SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS</b>	STAY IN DANGER AREA ONLY WITH SELF-CONTAINED BREATHING APPARATUS. PREVENT SKIN CONTACT BY KEEPING A SAFE DISTANCE OR BY WEARING SUITABLE PROTECTIVE CLOTHING.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

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<b>PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES</b>	ADVICE FOR NON-EMERGENCY PERSONNEL: DO NOT BREATHE VAPORS, AEROSOLS. AVOID SUBSTANCE CONTACT. ENSURE ADEQUATE VENTILATION. KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. EVACUATE THE DANGER AREA, OBSERVE EMERGENCY PROCEDURES, CONSULT AN EXPERT. FOR PERSONAL PROTECTION SEE SECTION 8.
<b>ENVIRONMENTAL PRECAUTIONS</b>	DO NOT LET PRODUCT ENTER DRAINS. RISK OF EXPLOSION.
<b>METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP</b>	COVER DRAINS. COLLECT, BIND, AND PUMP OFF SPILLS. OBSERVE POSSIBLE MATERIAL RESTRICTIONS (SEE SECTIONS 7 AND 10). DISPOSE OF PROPERLY. CLEAN UP AFFECTED AREA
<b>REFERENCE TO OTHER SECTIONS</b>	FOR DISPOSAL SEE SECTION 13.

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## SECTION 7. HANDLING AND STORAGE

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### PRECAUTIONS FOR SAFE HANDLING

WORK UNDER HOOD. DO NOT INHALE SUBSTANCE/MIXTURE. AVOID GENERATION OF VAPOURS/AEROSOLS.  
KEEP AWAY FROM OPEN FLAMES, HOT SURFACES AND SOURCES OF IGNITION. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE.  
CHANGE CONTAMINATED CLOTHING. WASH HANDS AFTER WORKING WITH SUBSTANCE.  
FOR PRECAUTIONS SEE SECTION 2.2.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. KEEP AWAY FROM HEAT AND SOURCES OF IGNITION.

HANDLE AND STORE UNDER INERT GAS. HYGROSCOPIC

STORAGE CLASS (TRGS 510): 3: FLAMMABLE LIQUIDS

STORE AT RT

### SPECIFIC END USE(S)

APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### CONTROL PARAMETERS

#### COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
TERT-BUTYL METHYL ETHER	1634-04-4	TWA	50 PPM	ACGIH

### EXPOSURE CONTROLS

#### APPROPRIATE ENGINEERING CONTROLS

CHANGE CONTAMINATED CLOTHING. WASH HANDS AFTER WORKING WITH SUBSTANCE.

### PERSONAL PROTECTIVE EQUIPMENT

#### EYE/FACE PROTECTION

USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU). SAFETY GLASSES

<b>SKIN PROTECTION</b>	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.
<b>BODY PROTECTION</b>	FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING.
<b>RESPIRATORY PROTECTION</b>	HAND PROTECTION MATERIAL : NITRILE RUBBER BREAK THROUGH TIME : 120 MIN GLOVE THICKNESS : 0.4 MM PROTECTIVE INDEX : SPLASH CONTACT MANUFACTURER : CAMATRIL® (KCL 730, SIZE M)  REMARKS: THIS RECOMMENDATION APPLIES ONLY TO THE PRODUCT STATED IN THE SAFETY DATA SHEET, SUPPLIED BY US AND FOR THE DESIGNATED USE. WHEN DISSOLVING IN OR MIXING WITH OTHER SUBSTANCES AND UNDER CONDITIONS DEVIATING FROM THOSE STATED IN EN 16523-1 PLEASE CONTACT THE SUPPLIER OF CE-APPROVED GLOVES.
<b>CONTROL OF ENVIRONMENTAL EXPOSURE</b>	DO NOT LET PRODUCT ENTER DRAINS. RISK OF EXPLOSION.
<b>SKIN AND BODY PROTECTION</b>	FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING.
<b>HYGIENE MEASURES</b>	IMMEDIATELY CHANGE CONTAMINATED CLOTHING. APPLY PREVENTIVE SKIN PROTECTION. WASH HANDS AND FACE AFTER WORKING WITH SUBSTANCE.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	CLEAR COLORLESS LIQUID
ODOUR	CHARACTERISTIC
ODOUR THRESHOLD	0.053 PPM
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	-108.6 °C (1,013 HPA)
BOILING POINT	DECOMPOSITION: NO 55 - 56 °C
FLASH POINT	-28 °C (1,013 HPA)
EVAPOURATION RATE	METHOD: CLOSED CUP NO DATA AVAILABLE

FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	UPPER EXPLOSION LIMIT 8.5 %(V)
LOWER EXPLOSION LIMIT / LOWER FLAMMABILITY LIMIT	1.6 %(V)
SELF-IGNITION	460 °C 101.3 KPA METHOD: DIN 51794
VAPOUR PRESSURE	330 HPA (25 °C) DECOMPOSITION: NO METHOD: OECD TEST GUIDELINE 104 GLP: YES
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	0.74 (20 °C)
WATER SOLUBILITY	42 G/L (20 °C) PH: 7 METHOD: OECD TEST GUIDELINE 105
PARTITION COEFFICIENT: N-OCTANOL/WATER	LOG POW: 1.06 (20 °C) PH: 7 METHOD: OECD TEST GUIDELINE 107 BIOACCUMULATION IS NOT EXPECTED.
AUTO-IGNITION TEMPERATURE	460 °C METHOD: DIN 51794
DECOMPOSITION TEMPERATURE	DISTILLABLE IN AN UNDECOMPOSED STATE AT NORMAL PRESSURE.
VISCOSITY	VISCOSITY, DYNAMIC : 0.36 MPA.S (20 °C) VISCOSITY, KINEMATIC : 0.409 MM2/S (40 °C) METHOD: OECD TEST GUIDELINE 114 GLP: YES
	0.464 MM2/S (20 °C) METHOD: OECD TEST GUIDELINE 114 GLP: YES
EXPLOSIVE PROPERTIES	NOT CLASSIFIED AS EXPLOSIVE.
OXIDIZING PROPERTIES	NO DATA AVAILABLE
<b>OTHER SAFETY INFORMATION</b>	
SURFACE TENSION	72.5 MN/M, 1.07 G/L, 21.5 °C, SURFACE TENSION, GLP: YES
PARTICLE CHARACTERISTICS	NO DATA AVAILABLE
PARTICLE SIZE	

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## SECTION 10. STABILITY AND REACTIVITY

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### REACTIVITY

VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

<b>CHEMICAL STABILITY</b>	THE PRODUCT IS CHEMICALLY STABLE UNDER STANDARD AMBIENT CONDITIONS (ROOM TEMPERATURE).
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	VIOLENT REACTIONS POSSIBLE WITH: OXIDIZING AGENTS STRONG ACIDS HALOGENS STRONG BASES RUBBER VARIOUS PLASTICS
<b>CONDITIONS TO AVOID</b>	HEAT, FLAMES AND SPARKS. WARMING. WARMING.
<b>INCOMPATIBLE MATERIALS</b>	NO DATA AVAILABLE
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	IN THE EVENT OF FIRE: SEE SECTION 5

## SECTION 11. TOXICOLOGICAL INFORMATION

### INFORMATION ON TOXICOLOGICAL EFFECTS

<b>ACUTE TOXICITY</b>	LD50 ORAL - RAT - MALE AND FEMALE - > 2,000 MG/KG (OECD TEST GUIDELINE 401) SYMPTOMS: NAUSEA, VOMITING, PULMONARY FAILURE POSSIBLE AFTER ASPIRATION OF VOMIT., ASPIRATION MAY CAUSE PULMONARY OEDEMA AND PNEUMONITIS.
	LC50 INHALATION - RAT - MALE AND FEMALE - 4 H - 85 MG/L – VAPOUR (OECD TEST GUIDELINE 403) SYMPTOMS: POSSIBLE DAMAGES:, MUCOSAL IRRITATIONS
	LD50 DERMAL - RAT - MALE AND FEMALE - > 2,000 MG/KG  NO DATA AVAILABLE
<b>SKIN CORROSION/IRRITATION</b>	SKIN – RABBIT RESULT: SKIN IRRITATION - 4 H (OECD TEST GUIDELINE 404) REMARKS: DRYING-OUT EFFECT RESULTING IN ROUGH AND CHAPPED SKIN.

**SERIOUS EYE  
DAMAGE/EYE  
IRRITATION**

EYES – RABBIT  
RESULT: NO EYE IRRITATION  
(OECD TEST GUIDELINE 405)

**RESPIRATORY OR SKIN  
SENSITISATION**

MAXIMISATION TEST - GUINEA PIG  
RESULT: NEGATIVE  
(OECD TEST GUIDELINE 406)

**GERM CELL  
MUTAGENICITY**

TEST TYPE: IN VITRO MAMMALIAN CELL GENE  
MUTATION TEST

TEST SYSTEM: CHINESE HAMSTER LUNG CELLS  
METABOLIC ACTIVATION: WITH AND WITHOUT  
METABOLIC ACTIVATION

METHOD: OECD TEST GUIDELINE 476

RESULT: NEGATIVE

TEST TYPE: AMES TEST

TEST SYSTEM: SALMONELLA TYPHIMURIUM  
METABOLIC ACTIVATION: WITH AND WITHOUT  
METABOLIC ACTIVATION

METHOD: OECD TEST GUIDELINE 471

RESULT: NEGATIVE

TEST TYPE: MUTAGENICITY (MAMMAL CELL TEST):  
MICRONUCLEUS.

TEST SYSTEM: MOUSE LYMPHOMA CELLS  
METABOLIC ACTIVATION: WITHOUT METABOLIC  
ACTIVATION

METHOD: OECD TEST GUIDELINE 473

RESULT: NEGATIVE

TEST TYPE: UNSCHEDULED DNA SYNTHESIS ASSAY  
SPECIES: MOUSE

CELL TYPE: LIVER CELLS

APPLICATION ROUTE: INHALATION (VAPOUR)

METHOD: OECD TEST GUIDELINE 486

RESULT: NEGATIVE

TEST TYPE: MICRONUCLEUS TEST

SPECIES: MOUSE

CELL TYPE: BONE MARROW

APPLICATION ROUTE: INHALATION (VAPOUR)

METHOD: US-EPA

RESULT: NEGATIVE

TEST TYPE: MUTAGENICITY (MAMMAL CELL TEST):  
CHROMOSOME ABERRATION.

SPECIES: RAT

CELL TYPE: BONE MARROW

APPLICATION ROUTE: INHALATION (VAPOUR)

METHOD: US-EPA

RESULT: NEGATIVE

TEST TYPE: TRANSGENIC RODENT SOMATIC CELL GENE  
MUTATION ASSAY

SPECIES: RAT

CELL TYPE: BONE MARROW

APPLICATION ROUTE: INHALATION (VAPOUR)

METHOD: OECD TEST GUIDELINE 488

RESULT: NEGATIVE

**CARCINOGENICITY**

IARC:

2B - GROUP 2B: POSSIBLY CARCINOGENIC 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 ON OSHA'S LIST OF REGULATED CARCINOGENS.
<b>REPRODUCTIVE TOXICITY</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE

**ADDITIONAL  
INFORMATION**

REPEATED DOSE TOXICITY - RAT - MALE AND FEMALE -  
ORAL - 90 D - NO OBSERVED ADVERSE EFFECT  
LEVEL - 3,000 MG/KG  
REMARKS: SUBCHRONIC TOXICITY  
RTECS: KN5250000

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, MTBE (METHYL-  
TERTBUTYL 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.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL,  
PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE  
NOT BEEN THOROUGHLY INVESTIGATED.

SYSTEMIC EFFECTS:  
AFTER ABSORPTION OF LARGE QUANTITIES:  
SOMNOLENCE  
DIZZINESS  
AGITATION, SPASMS  
CNS DISORDERS  
NARCOSIS  
UNCONSCIOUSNESS

OTHER DANGEROUS PROPERTIES CAN NOT BE  
EXCLUDED.

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL  
HYGIENE AND SAFETY PRACTICE.

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**SECTION 12. ECOLOGICAL INFORMATION**

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**TOXICITY**

<b>TOXICITY TO FISH</b>	LC50 (MENIDIA BERYLLINA): 574 MG/L END POINT: MORTALITY EXPOSURE TIME: 96 H TEST TYPE: SEMI-STATIC TEST ANALYTICAL MONITORING: YES METHOD: OECD TEST GUIDELINE 203
<b>TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES</b>	EC50 (AMERICAMYSIS BAHIA (MYSID)): 187 MG/L END POINT: SWIMMING BEHAVIOR EXPOSURE TIME: 96 H TEST TYPE: FLOW-THROUGH TEST ANALYTICAL MONITORING: YES METHOD: US-EPA OPPTS 850.1035 GLP: YES
<b>TOXICITY TO ALGAE/AQUATIC PLANTS</b>	IC50 (PSEUDOKIRCHNERIELLA SUBCAPITATA (GREEN ALGAE)): 491 MG/L EXPOSURE TIME: 96 H TEST TYPE: STATIC TEST ANALYTICAL MONITORING: YES GLP: YES
<b>TOXICITY TO FISH (CHRONIC TOXICITY)</b>	NOEC (PIMEPHALES PROMELAS (FATHEAD MINNOW)): 299 MG/L END POINT: GROWTH INHIBITION EXPOSURE TIME: 31 D TEST TYPE: FLOW-THROUGH TEST ANALYTICAL MONITORING: YES GLP: YES REMARKS: (ECHA)
	NOEC (PIMEPHALES PROMELAS (FATHEAD MINNOW)): 450 MG/L END POINT: MORTALITY EXPOSURE TIME: 31 D TEST TYPE: FLOW-THROUGH TEST ANALYTICAL MONITORING: YES GLP: YES REMARKS: (ECHA)
<b>TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES (CHRONIC TOXICITY)</b>	NOEC (DAPHNIA MAGNA (WATER FLEA)): 51 MG/L EXPOSURE TIME: 21 D TEST TYPE: FLOW-THROUGH TEST ANALYTICAL MONITORING: YES METHOD: OPPTS 850.1300 GLP: YES
<b>TOXICITY TO MICROORGANISMS</b>	EC10 (PSEUDOMONAS PUTIDA): 710 MG/L END POINT: GROWTH RATE EXPOSURE TIME: 18 H TEST TYPE: STATIC TEST GLP: YES REMARKS: (ECHA)
<b>PERSISTENCE AND DEGRADABILITY</b>	

<b>BIODEGRADABILITY</b>	AEROBIC INOCULUM: ACTIVATED SLUDGE CONCENTRATION: 2 MG/L RESULT: NOT READILY BIODEGRADABLE. BIODEGRADATION: 0 % EXPOSURE TIME: 28 D METHOD: OECD TEST GUIDELINE 301D GLP: YES
<b>BIOACCUMULATIVE POTENTIAL</b>	
<b>BIOACCUMULATION</b>	SPECIES: CYPRINUS CARPIO (CARP) BIOCONCENTRATION FACTOR (BCF): 1.5 EXPOSURE TIME: 28 D TEMPERATURE: 25 °C LOG POW: 1.06 (20 °C)
<b>PARTITION COEFFICIENT: NOCTANOL/WATER</b>	PH: 7 METHOD: OECD TEST GUIDELINE 107 REMARKS: BIOACCUMULATION IS NOT EXPECTED.
<b>MOBILITY IN SOIL</b>	NO DATA AVAILABLE
<b>RESULTS OF PBT AND VPVB ASSESSMENT</b>	NOT PERSISTENT, BIOACCUMULATIVE, AND TOXIC (PBT). NOT VERY PERSISTENT AND VERY BIOACCUMULATIVE (VPVB).  SUBSTANCE DOES NOT MEET THE CRITERIA FOR PBT OR VPVB ACCORDING TO REGULATION (EC) NO 1907/2006, ANNEX XIII.
<b>OTHER ADVERSE EFFECTS</b>	
<b>OZONE-DEPLETION POTENTIAL</b>	REGULATION: 40 CFR PROTECTION OF ENVIRONMENT; PART 82 PROTECTION OF STRATOSPHERIC OZONE - CAA SECTION 602 CLASS I SUBSTANCES REMARKS: THIS PRODUCT NEITHER CONTAINS, NOR WAS MANUFACTURED WITH A CLASS I OR CLASS II ODS AS DEFINED BY THE U.S. CLEAN AIR ACT SECTION 602 (40 CFR 82, SUBPT. A, APP.A + B).

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## SECTION 13. DISPOSAL CONSIDERATIONS

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### DISPOSAL METHODS

<b>WASTE FROM RESIDUES</b>	WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH THE NATIONAL AND LOCAL REGULATIONS. LEAVE CHEMICALS IN ORIGINAL CONTAINERS. NO MIXING WITH OTHER WASTE. HANDLE UNCLEANED CONTAINERS LIKE THE PRODUCT ITSELF.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

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**SECTION 14. TRANSPORT INFORMATION**

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**DOT (US)**

PROPER SHIPPING NAME: METHYL TERT-BUTYL ETHER  
UN NUMBER: 2398  
CLASS: 3  
PACKING GROUP: II  
REPORTABLE QUANTITY  
(RQ):  
POISON INHALATION HAZARD: NO

**IMDG**

PROPER SHIPPING NAME: METHYL TERT-BUTYL ETHER  
UN NUMBER: 2398  
CLASS: 3  
PACKING GROUP: II  
EMS-NO: F-E, S-D  
MARINE POLLUTANT: NO

**IATA**

PROPER SHIPPING NAME: METHYL TERT-BUTYL ETHER  
UN NUMBER: 2398  
CLASS: 3  
PACKING GROUP: II

**SPECIAL PRECAUTIONS FOR USER**

THE TRANSPORT CLASSIFICATION(S) PROVIDED HEREIN ARE FOR INFORMATIONAL PURPOSES ONLY, AND SOLELY BASED UPON THE PROPERTIES OF THE UNPACKAGED MATERIAL AS IT IS DESCRIBED WITHIN THIS SAFETY DATA SHEET. TRANSPORTATION CLASSIFICATIONS MAY VARY BY MODE OF TRANSPORTATION, PACKAGE SIZES, AND VARIATIONS IN REGIONAL OR COUNTRY REGULATIONS.

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**SECTION 15. REGULATORY INFORMATION**

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**CERCLA REPORTABLE QUANTITY**

COMPONENTS	CAS-NO.	COMPONENT RQ (LBS)	CALCULATED PRODUCT RQ (LBS)
TERT-BUTYL METHYL ETHER	1634-04-4	1000	1000

**SARA 304 EXTREMELY HAZARDOUS SUBSTANCES REPORTABLE QUANTITY**

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 304 EHS RQ.

**SARA 302 EXTREMELY HAZARDOUS SUBSTANCES THRESHOLD PLANNING QUANTITY**

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

**SARA 311/312 HAZARDS** FIRE HAZARD  
ACUTE HEALTH HAZARD

**SARA 313** THE FOLLOWING COMPONENTS ARE SUBJECT TO REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313:

	CAS NO.	CONTENT
TERT-BUTYL METHYL ETHER	1634-04-4	>= 90 - <= 100 %

**CLEAN AIR ACT**

THIS PRODUCT NEITHER CONTAINS, NOR WAS MANUFACTURED WITH A CLASS I OR CLASS II ODS AS DEFINED BY THE U.S. CLEAN AIR ACT SECTION 602 (40 CFR 82, SUBPT. A, APP.A + B). THE FOLLOWING CHEMICAL(S) ARE LISTED AS HAP UNDER THE U.S. CLEAN AIR ACT, SECTION 112 (40 CFR 61):

	CAS NO.	CONTENT
TERT-BUTYL METHYL ETHER	1634-04-4	>= 90 - <= 100 %

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS LISTED UNDER THE U.S. CLEAN AIR ACT SECTION 112(R) FOR ACCIDENTAL RELEASE PREVENTION (40 CFR 68.130, SUBPART F).

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS LISTED UNDER THE U.S. CLEAN AIR ACT SECTION 111 SOCM I INTERMEDIATE OR FINAL VOC'S (40 CFR 60.489).

**CLEAN WATER ACT**

THIS PRODUCT DOES NOT CONTAIN ANY HAZARDOUS SUBSTANCES LISTED UNDER THE U.S. CLEANWATER ACT, SECTION 311, TABLE 116.4A.

THIS PRODUCT DOES NOT CONTAIN ANY HAZARDOUS CHEMICALS LISTED UNDER THE U.S. CLEANWATER ACT, SECTION 311, TABLE 117.3.

THIS PRODUCT DOES NOT CONTAIN ANY TOXIC POLLUTANTS LISTED UNDER THE U.S. CLEAN WATER ACT SECTION 307

THIS PRODUCT DOES NOT CONTAIN ANY PRIORITY POLLUTANTS RELATED TO THE U.S. CLEAN WATER ACT

**US STATE REGULATIONS**

**MASSACHUSETTS RIGHT TO KNOW**

TERT-BUTYL METHYL ETHER 1634-04-4

**PENNSYLVANIA RIGHT TO KNOW**

TERT-BUTYL METHYL ETHER 1634-04-4

**MAINE CHEMICALS OF HIGH CONCERN**

TERT-BUTYL METHYL ETHER 1634-04-4

**VERMONT CHEMICALS OF HIGH CONCERN**

PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**WASHINGTON CHEMICALS OF HIGH CONCERN**

PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

**THE COMPONENTS OF THIS PRODUCT ARE REPORTED IN THE FOLLOWING INVENTORIES:**

**TSCA** ALL SUBSTANCES LISTED AS ACTIVE ON THE TSCA INVENTORY

**TSCA LIST**

NO SUBSTANCES ARE SUBJECT TO A SIGNIFICANT NEW USE RULE  
NO SUBSTANCES ARE SUBJECT TO TSCA 12(B) EXPORT NOTIFICATION REQUIREMENTS.

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**SECTION 16. OTHER INFORMATION**

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**FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.**

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR  
H315 CAUSES SKIN IRRITATION.

**MSDS LEGEND**

MW: MOLECULAR WEIGHT  
MF: MOLECULAR FORMULA  
VOC: VOLATILE ORGANIC COMPOUNDS  
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS  
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER  
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)  
TLV: THRESHOLD LIMIT VALUE (ACGIH)

**IMPORTANT:**

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