



GMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
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DATE 01/08/97
CUST#: 938609
PO#: 83900

M A T E R I A L S A F E T Y D A T A S H E E T P A G E 1

SECTION 1. - - - - - C H E M I C A L I D E N T I F I C A T I O N - - - - -

CATALOG #: 17978-7
NAME: TERT-BUTYL METHYL ETHER, 98%

SECTION 2. - - - - - C O M P O S I T I O N / I N F O R M A T I O N O N I N G R E D I E N T S - - - - -

CAS #: 1634-04-4
MF: C₅H₁₂O
EC NO: 216-653-1

SYNONYMS

TERT-BUTYL METHYL ETHER * 2-METHOXY-2-METHYLPROPANE * METHYL TERT-BUTYL ETHER (DOT) * METHYL 1,1-DIMETHYLETHYL ETHER * PROPANE, 2-METHOXY-2-METHYL- (9CI) * UN2398 (DOT) *

SECTION 3. - - - - - H A Z A R D S I D E N T I F I C A T I O N - - - - -

BEL PRECAUTIONARY STATEMENTS
FLAMMABLE (USA)
HIGHLY FLAMMABLE (EU)
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
KIDNEYS
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.
REFRIGERATE BEFORE OPENING.

SECTION 4. - - - - - F I R S T - A I D M E A S U R E S - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - F I R E F I G H T I N G M E A S U R E S - - - - -

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO

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SIGMA-ALDRICH
RESEARCH

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PREVENT CONTACT WITH SKIN AND EYES.
EXTREMELY FLAMMABLE.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND
FLASH BACK.
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.
FORMS EXPLOSIVE MIXTURES IN AIR.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

EVACUATE AREA.
SHUT OFF ALL SOURCES OF IGNITION.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED
CONTAINERS. TRANSPORT OUTDOORS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
MECHANICAL EXHAUST REQUIRED.
SAFETY SHOWER AND EYE BATH.
USE NONSPARKING TOOLS.
DO NOT BREATHE VAPOR.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
IRRITANT.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR
COLORLESS LIQUID

PHYSICAL PROPERTIES

BOILING POINT: 55 C TO 56 C
FLASHPOINT -27 F
- 2C

EXPLOSION LIMITS IN AIR:

UPPER

15.1%

LOWER

1.6%

AUTOIGNITION TEMPERATURE: 377 F 191C

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CATALOG #: 17978-7
NAME: TERT-BUTYL METHYL ETHER, 98%
VAPOR PRESSURE: 4.05PSI 20 C 14.78PSI 55 C
SPECIFIC GRAVITY: 0.740
VAPOR DENSITY: 3.1

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

INCOMPATIBILITIES
OXIDIZING AGENTS
STRONG ACIDS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
EXPOSURE CAN CAUSE:
NAUSEA, VOMITING, DIARRHEA

CHRONIC EFFECTS

TARGET ORGAN(S):
KIDNEYS
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION

CAN BE HARMFUL OR FATAL IF SWALLOWED. METHYL TERT-BUTYL ETHER IN THE
LUNGS COULD RESULT IN CHEMICAL PNEUMONIA WHICH CAN BE FATAL.

RTECS #: KN5250000
ETHER, TERT-BUTYL METHYL

TOXICITY DATA

ORL-RAT LD50:4 GM/KG	NTIS** PB87-174603
IHL-RAT LC50:23576 PPM/4H	NTIS** PB87-174603
ORL-MUS LD50:5960 UL/KG	CHHTAT 70,172,90
IHL-MUS LC50:141 GM/M3/15M	ANESAV 11,455,50
IPR-MUS LD50:1700 UL/KG	CHHTAT 70,172,90

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -

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BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND
SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY
FLAMMABLE.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

HIGHLY FLAMMABLE

IRRITANT

R 36/37/38

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

HIGHLY FLAMMABLE

S 16

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.

S 36

WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

OEL-RUSSIA:STEL 100 MG/M3 JAN93

NOES 1983: HZD X4267; NIS 6; TNF 614; NOS 9; TNE 5996; TFE 1783

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1996

NIOSH ANALYTICAL METHOD, 1994: METHYL TERT-BUTYL ETHER, 1615

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - OTHER INFORMATION - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ALDRICH SHALL NOT BE
HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH
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