



JAN 20 1999

SIGMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
MILWAUKEE, WISCONSIN 53201, USA

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STEVEN ANDERSON
UNIVERSITY OF WISCONSIN WHITEWATER
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DATE 01/11/99
CUST#: 523216
PO#: CC/ONSRUD

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

SECTION 1. - - - - - CHEMICAL IDENTIFICATION - - - - -

CATALOG #: T5945-5
NAME: TRI(ETHYLENE GLYCOL), 99%

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 112-27-6
MF: C6H14O4
EC NO: 203-953-2

SYNONYMS

1,2-BIS(2-HYDROXYETHOXY)ETHANE * DI-BETA-HYDROXYETHOXYETHANE * 3,6-DIOXAOCANE-1,8-DIOL * 2,2'-(1,2-ETHANEDIYLBIS(OXY))BIETHANOL * ETHANOL, 2,2'-(ETHYLENEDIOXY)DI- * 2,2'-ETHYLENEDIOXYBIS(ETHANOL) * 2,2'-ETHYLENEDIOXYDIETHANOL * 2,2'-ETHYLENEDIOXYETHANOL * ETHYLENE GLYCOL-BIS-(2-HYDROXYETHYL ETHER) * ETHYLENE GLYCOL DIHYDROXYDIETHYL ETHER * GLYCOL BIS(HYDROXYETHYL) ETHER * TEG * TRIETHYLENGLYKOL (CZECH) * TRIGEN * TRIGLYCOL *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.
HYGROSCOPIC
KEEP TIGHTLY CLOSED.

SECTION 4. - - - - - FIRST-AID MEASURES - - - - -

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. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO

CONTINUED ON NEXT PAGE

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NAME: TRI(ETHYLENE GLYCOL), 99%

PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
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.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE VAPOR.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
IRRITANT.
KEEP TIGHTLY CLOSED.
HYGROSCOPIC
STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR
VISCIOUS COLORLESS LIQUID

PHYSICAL PROPERTIES

BOILING POINT: 285 C
MELTING POINT: -7 C
FLASHPOINT 330F
165.55C
EXPLOSION LIMITS IN AIR:
UPPER 9.2%
LOWER 0.9%
AUTOIGNITION TEMPERATURE: 699 F 370C
VAPOR PRESSURE: <0.01MM 20 C 1MM 114 C
SPECIFIC GRAVITY: 1.125
VAPOR DENSITY: 5.2

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

INCOMPATIBILITIES

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CATALOG #: T5945-5
NAME: TRI(ETHYLENE GLYCOL), 99%

STRONG OXIDIZING AGENTS
STRONG ACIDS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
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.
PROLONGED EXPOSURE CAN CAUSE:
NAUSEA, HEADACHE AND VOMITING
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: YE4550000
TRIETHYLENE GLYCOL

IRRITATION DATA
SKN-RBT 500 MG/24H MLD FCTXAV 17,913,1979
EYE-RBT 500 MG MLD AJOPAA 29,1363,1946

TOXICITY DATA
ORL-HMN LD50:5 GM/KG FCTXAV 17,913,1979
ORL-RAT LD50:17 GM/KG JIHTAB 28,40,1946
IVN-RAT LD50:11700 MG/KG ARZNAD 18,1536,1968
IPR-MUS LD50:8141 MG/KG FEPRA7 6,342,1947
SCU-MUS LD50:8750 MG/KG JPETAB 65,89,1939
IVN-MUS LD50:6500 MG/KG JPETAB 65,89,1939
IVN-DOG LD50:>4500 MG/KG ARZNAD 18,1536,1968
ORL-RBT LD50:8400 MG/KG JIHTAB 28,40,1946
SKN-RBT LD50:>20 ML/KG 34ZIAG -731,1969
IVN-RBT LD50:1900 MG/KG ARZNAD 18,1536,1968
ORL-GPG LD50:7900 MG/KG JIHTAB 28,40,1946
IVN-GPG LD50:10600 MG/KG ARZNAD 18,1536,1968
ORL-MAM LD50:8150 MG/KG GISAAA 39(4),86,1974
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

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

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

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

IRRITANT

R 36/37/38

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

S 26

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

S 37/39

WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,1989

NOHS 1974: HZD 80354; NIS 120; TNF 18128; NOS 97; TNE 146703

NOES 1983: HZD 80354; NIS 119; TNF 23174; NOS 100; TNE 233613; TFE
53367

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

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

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JUNE 1998

NIOSH ANALYTICAL METHOD, 1996: GLYCOLS, 5523

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 THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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