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

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

CATALOG #: D93856
NAME: DIETHYLENETRIAMINE, 99%

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

CAS #: 111-40-0
MF: C4H13N3
EC NO: 203-865-4

SYNONYMS

AMINOETHYLETHANDIAMINE * 3-AZAPENTANE-1,5-DIAMINE * BIS(2-AMINOETHYL)
AMINE * BIS(BETA-AMINOETHYL)AMINE * DIETHYLENETRIAMINE (ACGIH:OSHA) *
CHS-P 1 * 2,2'-DIAMINODIETHYLAMINE * DIETHYLAMINE, 2,2'-DIAMINO- * 1,
2-ETHANEDIAMINE, N-(2-AMINOETHYL)- * ETHYLAMINE, 2,2'-IMINOBIS- *
ETHYLENEDIAMINE, N-(2-AMINOETHYL)- * 2,2'-IMINOBIS(ETHANAMINE) * 1,4,
7-TRIAZAHEPTANE *

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

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)
TOXIC (EU)
HARMFUL IF SWALLOWED.
TOXIC IN CONTACT WITH SKIN.
CAUSES BURNS.
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
READILY ABSORBED THROUGH SKIN.
TARGET ORGAN(S):
KIDNEYS
LIVER
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

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

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN IMMEDIATELY.
DO NOT INDUCE VOMITING.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
SHOES. CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
EVACUATE AREA.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD CONTAMINATED SHOES.
WASH THOROUGHLY AFTER HANDLING.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.
STORE UNDER N2.

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

COLORLESS LIQUID

PHYSICAL PROPERTIES

BOILING POINT: 199 C TO 209 C

MELTING POINT: -35 C

FLASHPOINT 202 F

EXPLOSION LIMITS IN AIR:

UPPER 6.7%

LOWER 2%

AUTOIGNITION TEMPERATURE: 676 F

VAPOR PRESSURE: 0.08MM 20 C

SPECIFIC GRAVITY: 0.955

VAPOR DENSITY: 3.6

SWISS POISON CLASS: 4

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

STABLE.

CONDITIONS TO AVOID

ABSORBS CO2 FROM AIR.

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

STRONG ACIDS

COPPER, COPPER ALLOYS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
ACUTE EFFECTS

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE
LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
VOMITING.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.

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

TOXIC IF ABSORBED THROUGH SKIN.

MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT.

MAY BE HARMFUL IF INHALED.

HARMFUL IF SWALLOWED.

MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.

CHRONIC EFFECTS

TARGET ORGAN(S):

LIVER
KIDNEYS

RTECS #: IE1225000

DIETHYLENETRIAMINE

IRRITATION DATA

SKN-RBT 500 MG OPEN MOD UCDS** 12/30/1971
SKN-RBT 500 MG IYKEDH 6,170,1975

TOXICITY DATA

ORL-RAT LD50:1080 MG/KG AMIHAB 17,129,1958
IPR-RAT LD50:74 MG/KG AMIHAB 17,129,1958
UNR-RAT LD50:970 MG/KG GISAAA 37(7),103,1972
IPR-MUS LD50:71 MG/KG AMIHAB 17,129,1958
UNR-MUS LD50:970 MG/KG GISAAA 37(7),103,1972
SKN-RBT LD50:1090 MG/KG JIHTAB 31,60,1949
UNR-RBT LD50:970 MG/KG GISAAA 37(7),103,1972
SKN-GPG LD50:170 UL/KG JIHTAB 26,269,1944
UNR-GPG LD50:600 MG/KG GISAAA 37(7),103,1972

TARGET ORGAN DATA

BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
GASTROINTESTINAL (PERITONITIS)
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 - - - - -
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
THIS MATERIAL.
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.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EC INDEX NO: 612-058-00-X
TOXIC
R 21/22
HARMFUL IN CONTACT WITH SKIN AND IF SWALLOWED.
R 34
CAUSES BURNS.
R 43
MAY CAUSE SENSITIZATION BY SKIN CONTACT.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
S 45
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-TWA 1 PPM (SKIN) DTLVS* TLV/BEI,1999
MSHA STANDARD-AIR:TWA 1 PPM (4 MG/M3) (SKIN)
DTLWS* 3,85,1971
OSHA PEL (CONSTRUC):CL 10 PPM (42 MG/M3) (SKIN)
CFRGBR 29,1926.55,1994
OSHA PEL (SHIPYARD):CL 10 PPM (42 MG/M3) (SKIN)
CFRGBR 29,1915.1000,1993
OEL-AUSTRALIA: TWA 1 PPM (4 MG/M3), SKIN, JAN1993
OEL-AUSTRIA: MAK 1 PPM (4 MG/M3), JAN1999
OEL-BELGIUM: TWA 1 PPM (4.2 MG/M3), SKIN, JAN1993
OEL-DENMARK: TWA 1 PPM (4 MG/M3), SKIN, JAN1999

OEL-FRANCE: VME 1 PPM (4 MG/M3), JAN1999
OEL-HUNGARY: STEL 4 MG/M3, SKIN, JAN1993
OEL-THE NETHERLANDS: MAC-TGG 1 PPM (4 MG/M3), SKIN, JAN1999
OEL-NORWAY: TWA 1 PPM (4 MG/M3), JAN1999
OEL-SWEDEN: NGV 1 PPM (4.5 MG/M3), KTV 2 PPM (10 MG/M3), SKIN, JAN1999
OEL-SWITZERLAND: MAK-W 1 PPM (4 MG/M3), SKIN, JAN1999
OEL-UNITED KINGDOM: TWA 1 PPM (4.3 MG/M3), SKIN, SEP2000
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO DIETHYLENE TRIAMINE-AIR:10H TWA 1 PPM (SK)
NIOSH* DHHS #92-100,1992
NOHS 1974: HZD 25210; NIS 66; TNF 2804; NOS 56; TNE 38557
NOES 1983: HZD 25210; NIS 78; TNF 2978; NOS 74; TNE 94517; TFE 15589
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA 8(A) PRELIMINARY ASSESSMENT INFORMATION, FINAL RULE
FEREAC 47,26992,82
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001
NIOSH ANALYTICAL METHOD, 1994: DIETHYLENETRIAMINE, 2540
OSHA ANALYTICAL METHOD #ID-60

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