



JAN 20 1999

SIGMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
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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 #: 26140-8
NAME: THEOPHYLLINE, 99%

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

CAS #: 58-55-9
MF: C7H8N4O2
EC NO: 200-385-7

SYNONYMS

ACET-THEOCIN * ARMOPHYLLINE * ASMAX * AUSTYN * 3,7-DIHYDRO-1,3-DIMETHYL-1H-PURINE-2,6-DIONE * 1,3-DIMETHYLBENZYLXANTHINE * DURAPHY * ELIXICON * ELIXOPHYLLIN * ELIXOPHYLLINE * EUPHYLONG * LANOPHYLLIN * LIQUOPHYLLINE * NSC 2066 * NUELIN * OPTIPHYLLIN * PARKOPHYLLIN * PSEUDOTHEOPHYLLINE * 1H-PURINE-2,6-DIONE, 3,7-DIHYDRO-1,3-DIMETHYL-(9CI) * QUIBRON T/SR * SLO-PHYLLIN * SOLOSIN * SPOPHYLLIN RETARD * TEOFILINA (POLISH) * TEOFYLLAMIN * THEAL TABLETS * THEOCIN * THEO-DUR * THEOFOL * THEOGRAD * THEOLAIR * THEOLIX * THEOPHYL-225 * THEOPHYLLIN * THEOPHYLLINE, ANHYDROUS * UNIPHYLLIN * XANTHINE, 1,3-DIMETHYL- *

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

LABEL PRECAUTIONARY STATEMENTS

TOXIC (USA)
HARMFUL (EU)
HARMFUL IF SWALLOWED.
TARGET ORGAN(S):
NERVES
HEART
WEAR SUITABLE PROTECTIVE CLOTHING.

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.

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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- - - - -

EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
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.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR
WHITE POWDER

PHYSICAL PROPERTIES
MELTING POINT: 274 C TO 275 C

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

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES

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

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CATALOG #: 26140-8
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ACUTE EFFECTS

HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
TARGET ORGAN(S):
NERVES
HEART
KIDNEYS
SMOOTH MUSCLE

ADDITIONAL INFORMATION

WARNING: TOXIC SYNERGISM WITH EPHEDRINE HAS BEEN DOCUMENTED AND MAY
OCCUR ALSO WITH SOME OTHER SYMPATHOMIMETIC BRONCHODILATORS.
OVEREXPOSURE MAY CAUSE: NAUSEA, VOMITING, HEADACHES, DIARRHEA,
EPIGASTRIC PAIN, HEMATEMESIS, INSOMNIA, CLONIC AND TONIC CONVULSIONS,
TACHYCARDIA, HYPOTENSION, CIRCULATORY FAILURE, VENTRICULAR
ARRHYTHMIAS.

RTECS #: XH3850000
THEOPHYLLINE

TOXICITY DATA

ORL-WMN LDLO:130 MG/KG	AIMEAS 101,457,1984
IVN-MAN LDLO:3429 UG/KG	JAMAAP 136,397,1948
PAR-MAN LDLO:12 MG/KG	DAKMAJ 80,510,1904
ORL-RAT LD50:225 MG/KG	USXXAM #4089959
IPR-RAT LD50:188 MG/KG	PEREBL 11,783,1977
UNR-RAT LD50:300 MG/KG	USXXAM #4767763
ORL-MUS LD50:235 MG/KG	ARZNAD 45,569,1995
IPR-MUS LD50:70 MG/KG	BJPCBM 73,887,1981
SCU-MUS LD50:138 MG/KG	ARZNAD 3,328,1953
IVN-MUS LD50:136 MG/KG	PAHEAA 48,133,1973
IMS-MUS LD50:271 MG/KG	NIIRDN 6,34,1982
UNR-MUS LD50:400 MG/KG	USXXAM #4767763
REC-MUS LD50:166 MG/KG	PEREBL 11,783,1977
ORL-RBT LD50:350 MG/KG	85JCAE -,865,1986
IVN-RBT LD50:150 MG/KG	NIIRDN 6,34,1982
ORL-GPG LD50:183 MG/KG	USXXAM #4089959

TARGET ORGAN DATA

BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (TREMOR)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (EXCITEMENT)
BEHAVIORAL (ANOREXIA, HUMAN)
BEHAVIORAL (MUSCLE CONTRACTION OR SPASTICITY)
BEHAVIORAL (COMA)

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BEHAVIORAL (HEADACHE)
BEHAVIORAL (IRRITABILITY)
CARDIAC (ARRYTHMIAS)
CARDIAC (EKG CHANGES NOT DIAGNOSTIC OF ABOVE)
CARDIAC (PULSE RATE INCREASED WITHOUT FALL IN BP)
CARDIAC (CHANGE IN RATE)
VASCULAR (BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION)
LUNGS, THORAX OR RESPIRATION (CYANOSIS)
LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (CHANGES IN STRUCTURE OR FUNCTION OF SALIVARY GLANDS)
GASTROINTESTINAL (NAUSEA OR VOMITING)
GASTROINTESTINAL (CONTRACTION)
ENDOCRINE (HYPERGLYCEMIA)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (BODY WALL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (OTHER DEVELOPMENTAL ABNORMALITIES)
EFFECTS ON NEWBORN (OTHER NEONATAL MEASURES OR EFFECTS)
NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: K)
NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS)
NUTRITIONAL AND GROSS METABOLIC (BODY TEMPERATURE DECREASE)
BIOCHEMICAL EFFECTS (OTHER)
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.

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

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

EUROPEAN INFORMATION
HARMFUL
R 22
HARMFUL IF SWALLOWED.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

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CATALOG #: 26140-8
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OEL=MAK
IARC CANCER REVIEW:HUMAN INADEQUATE EVIDENCE IMEMDT 51,391,1991
IARC CANCER REVIEW:ANIMAL INADEQUATE EVIDENCE IMEMDT 51,391,1991
IARC CANCER REVIEW:GROUP 3 IMEMDT 51,391,1991
NOHS 1974: HZD M0977; NIS 3; TNF 1681; NOS 18; TNE 7418
NOES 1983: HZD M0977; NIS 6; TNF 1091; NOS 13; TNE 29718; TFE 21742
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
NTP CARCINOGENESIS STUDIES; TEST COMPLETED (POST PEER REVIEW), OCTOBER 1997

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

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