



MAR 21 1997

SIGMA-ALDRICH

SIGMA CHEMICAL COMPANY
POST OFFICE BOX 14508
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DATE 03/13/97
CUST#: 2-097-94816
PO#: QH 4783

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 #: F5786
NAME: FORMAMIDE SIGMAULTRA

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

CAS #: 75-12-7
MF: CH3NO
EC NO: 200-842-0

HAZARDOUS INGREDIENTS
CONTAINS METHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-56-1.

SYNONYMS
AMID KYSELINY MRAVENCÍ (CZECH) * CARBAMALDEHYDE * FORMAMIDE (ACGIH) *
METHANAMIDE * METHANOIC ACID, AMIDE *

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

LABEL PRECAUTIONARY STATEMENTS

TOXIC
MAY CAUSE HARM TO THE UNBORN CHILD.
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
BLOOD
EYES
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
DO NOT BREATHE VAPOR.

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

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
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

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CATALOG #: F5786
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WATER SPRAY.
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.
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 - - - - -

CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
TERATOGEN.
HARMFUL LIQUID.
IRRITANT.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

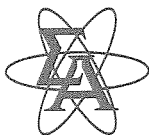
SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR
LIQUID.

PHYSICAL PROPERTIES

BOILING POINT: 210 C
MELTING POINT: 2 C TO 3 C
FLASHPOINT: 310 F
154C
AUTOIGNITION TEMPERATURE: 932 F
VAPOR PRESSURE: 0.08MM 20 C 30MM 129 C 499C
SPECIFIC GRAVITY: 1.134
VAPOR DENSITY: 1.55

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

STABILITY
STABLE.

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
PROTECT FROM MOISTURE.
ACIDS
BASES

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

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

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

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
EXPOSURE CAN CAUSE:
GASTROINTESTINAL DISTURBANCES

CHRONIC EFFECTS
MAY CAUSE CONGENITAL MALFORMATION IN THE FETUS.
TARGET ORGAN(S):
BLOOD
EYES
KIDNEYS

RTECS #: LQ0525000
FORMAMIDE

IRRITATION DATA
EYE-RBT 100 MG SEV

AJOPAA 29,1363,46

TOXICITY DATA

ORL-RAT LD50:5577 MG/KG
IPR-RAT LD50:5700 MG/KG
SCU-RAT LD50:>4 GM/KG
UNR-RAT LD50:3 GM/KG
ORL-MUS LD50:3150 MG/KG
IPR-MUS LD50:2450 MG/KG
IPR-GPG LD50:1250 MG/KG
ORL-MAM LD50:3150 MG/KG

TPKVAL 9,163,67
TXAPA9 26,596,73
APEPA2 25,296,67
EXPEAM 29,225,73
TPKVAL 11,86,69
AEPPAE 230,559,57
TPKVAL 9,163,67
GISAAA 39(4),86,74

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TARGET ORGAN DATA

AUTONOMIC NERVOUS SYSTEM (OTHER: PARASYMPATHOMIMETIC)
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
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 SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

TOXIC

R 61

MAY CAUSE HARM TO THE UNBORN CHILD.

R 20/21/22

HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 36/37/38

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

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 23

DO NOT BREATHE VAPOR.

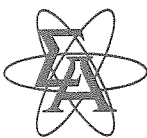
TLV AND SOURCE

FOR METHYL ALCOHOL - SKIN:

ACGIH TLV-TWA: 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).

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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 P A G E 5

CATALOG #: F5786
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OSHA PEL: 8 H TWA 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-TWA 18 MG/M3 (10 PPM) (SKIN) DTLVS* TLV/BEI, 96
OEL-AUSTRALIA:TWA 10 PPM (15 MG/M3);SKIN JAN93
OEL-BELGIUM:TWA 10 PPM (18 MG/M3);SKIN JAN93
OEL-DENMARK:TWA 20 PPM (30 MG/M3) JAN93
OEL-FINLAND:TWA 20 PPM (37 MG/M3);STEL 30 PPM (55 MG/M3);SKIN JAN93
OEL-FRANCE:TWA 20 PPM (30 MG/M3) JAN93
OEL-THE NETHERLANDS:TWA 20 PPM (30 MG/M3) JAN93
OEL-RUSSIA:STEL 3 MG/M3 JAN93
OEL-SWITZERLAND:TWA 20 PPM (37 MG/M3) JAN93
OEL-UNITED KINGDOM:TWA 20 PPM (30 MG/M3);STEL 30 PPM (45 MG/M3) JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO FORMAMIDE-AIR:10H TWA 10 PPM (SK)
NIOSH* DHHS #92-100, 92
NOHS 1974: HZD 84454; NIS 6; TNF 227; NOS 14; TNE 3195
NOES 1983: HZD 84454; NIS 3; TNF 42; NOS 5; TNE 2724; TFE 556
EPA GENETOX PROGRAM 1988, NEGATIVE: CELL TRANSFORM.-RLV F344 RAT EMBRYO
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 1997
CARCINOGENESIS STUDIES; SELECTED, NOV 1996

U.S. INFORMATION

0.1% METHANOL 67-56-1
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. SIGMA 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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