MAT 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 #: 15780
NAME: N-METHYL-2-PYRROLIDONE, 99.5% GC

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 872-50-4
MF: C5H9NO
EC NO: 212-828-1
SYNONYMS
N-METHYLPYRROLIDINONE * N-METHYL-2-PYRROLIDINONE * 1-METHYL-2-
PYRROLIDINONE * 1-METHYL-5-PYRROLIDINONE * N-METHYLPHENYLPHENYLAMINE * N-
METHYL-ALPHA-PYRROLIDONE * N-METHYL-2-PYRROLIDONE * 1-METHYL-2-
PYRROLIDONE * M-PYROL * NMP

SECTION 3. - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
COMBUSTIBLE.
TARGET ORGAN(S):
SPLEEN
BONE MARROW
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
IN CASE OF FIRE AND/OR EXPLOSION DO NOT BREATHE FUMES.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

SECTION 4. - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES.

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
PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
COMBUSTIBLE LIQUID.
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- - - - -
MECHANICAL EXHAUST REQUIRED.
SAFETY SHOWER AND EYE BATH.
WASH THOROUGHLY AFTER HANDLING.
DO NOT BREATHE VAPOR.
AVOID CONTACT WITH EYES, SKIN AND 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.
MOISTURE SENSITIVE

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

PHYSICAL PROPERTIES
BOILING POINT: 81 - 82 °C
MELTING POINT: -24 °C
FLASHPOINT 187 °F
86 °C

EXPLOSION LIMITS IN AIR:
UPPER 9.5 %
LOWER 1.3 %

VAPOR PRESSURE: 0.99 MMHG
SPECIFIC GRAVITY: 1.028
VAPOR DENSITY: 3.4 G/L

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

INCOMPATIBILITIES
PROTECT FROM MOISTURE.
STRONG ACIDS
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - - - -
ACUTE EFFECTS
CAUSES SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE IRRITATION.
MAY BE HARMFUL IF INHALED.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

CHRONIC EFFECTS
TARGET ORGAN(S):
BONE MARROW
THYMUS
SPLEEN
LYMPHATIC SYSTEM
RTECS #: UY5790000
2-PYRROLIDINONE, 1-METHYL-

IRRITATION DATA
EYE-RBT 100 MG MOD FCTOD7 26,475,1988

TOXICITY DATA
ORL-RAT LD50:3914 MG/KG ARZNAD 26,1581,1976
IPR-RAT LD50:2472 MG/KG ARZNAD 26,1581,1976
SCU-RAT LD50:2 GM/KG USXXAM #4882359
IVN-RAT LD50:80500 UG/KG IYKEDH 18,922,1987
UNR-RAT LD50:7 GM/KG 34ZIAG -,408,1969
ORL-MUS LD50:5130 MG/KG EPASR* 8EHQ -1087-0695
IPR-MUS LD50:3050 MG/KG EPASR* 8EHQ-1087-0695
IVN-MUS LD50:54500 UG/KG IYKEDH 18,922,1987
IVN-DOG LD50:63500 UG/KG IYKEDH 18,922,1987
SKN-RBT LD50:8 GM/KG NPIRI* 1,84,1974

TARGET ORGAN DATA
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CENTRAL NERVOUS SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
EFFECTS ON NEWBORN (DELAYED EFFECTS)
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 SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - -
EUROPEAN INFORMATION
EC INDEX NO: 606-021-00-7
IRRITANT
R 36/38
IRRITATING TO EYES AND SKIN.
S 41
IN CASE OF FIRE AND/OR EXPLOSION DO NOT BREATHE FUMES.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
OEL-DENMARK: TWA 50 PPM (200 MG/M3), JAN1999
OEL-FINLAND: TWA 2 PPM, JAN1999
OEL-GERMANY: MAK 100 PPM (400 MG/M3), JAN1993
OEL-THE NETHERLANDS: MAC-TGG 100 PPM (400 MG/M3), JAN1999
OEL-NORWAY: TWA 50 PPM (200 MG/M3), JAN1999
OEL-RUSSIA: STEL 100 MG/M3, JAN1993
OEL-SWEDEN: NGV 50 PPM (200 MG/M3), KTV 75 PPM (300 MG/M3), JAN1999
OEL-UNITED KINGDOM: TEEL 100 PPM (400 MG/M3), JAN1993
NOHS 1974: HZD M1569; NIS 30; TNE 2458; NOS 43; TNE 25255
NOES 1983: HZD M1569; NIS 63; TNE 3902; NOS 73; TNE 85169; TFE 23478
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 2000

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. SIGMA, ALDRICH, FLUKA 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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