MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: 416479
NAME: MANGANESE(II) CHLORIDE, FLAKES, 97%

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 7773-01-5
MF: CL2MN
EC NO: 231-869-6
SYNONYMS
MANGANESE CHLORIDE * MANGANESE DICHLORIDE * MANGANOUS CHLORIDE *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
TOXIC (USA)
HARMFUL (EU)
HARMFUL IF SWALLOWED.
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.
TARGET ORGAN(S):
LUNGS
NERVES
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.
STORE UNDER NITROGEN.
MOISTURE SENSITIVE

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 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
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.
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.
EVACUATE AREA.

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 DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
STORE IN A COOL DRY PLACE.
KEEP TIGHTLY CLOSED.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - -
PHYSICAL PROPERTIES
SOLUBILITY:
WATER -Z26060
123.8 G/100 ML
72.3 G/100 ML W
SPECIFIC GRAVITY: 2.980

SECTION 10. - - - - - - - STABILITY AND REACTIVITY - - - - - -
STABILITY
STABLE.
INCOMPATIBILITIES
PROTECT FROM MOISTURE.
ZINC
SODIUM
POTASSIUM
STRONG ACIDS
HYDROGEN PEROXIDE
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
HYDROGEN CHLORIDE GAS
MANGANESE/MANGANESE OXIDES
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - TOXICOLOGICAL INFORMATION - - - - - -
ACUTE EFFECTS
MEN EXPOSED TO MANGANESE DUSTS SHOWED A DECREASE IN FERTILITY.
CHRONIC MANGANESE POISONING PRIMARILY INVOLVES THE CENTRAL NERVOUS
SYSTEM. EARLY SYMPTOMS INCLUDE LANGUOR, SLEEPINESS AND WEAKNESS IN
THE LEGS. A STOLID MASK-LIKE APPEARANCE OF THE FACE, EMOTIONAL
DISTURBANCES SUCH AS UNCONTROLLABLE LAUGHTER AND A SPASTIC GAIT WITH
TENDENCY TO FALL IN WALKING ARE FINDINGS IN MORE ADVANCED CASES. HIGH
INCIDENCE OF PNEUMONIA HAS BEEN FOUND IN WORKERS EXPOSED TO THE DUST
OR FUME OF SOME MANGANESE COMPOUNDS.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
MAY CAUSE SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY BE HARMFUL IF INHALED.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
HARMFUL IF SWALLOWED.

CHRONIC EFFECTS
TARGET ORGAN(S):
NERVES
LUNGS
LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS.

RTECS #: O09625000
MANGANESE(II) CHLORIDE (1:2)

TOXICITY DATA
ORL-RAT LD50:250 MG/KG GISAAA 26(12), 8, 1961
IPR-RAT LD50:147 MG/KG INJPD2 23,153,1991
IMS-RAT LD50:700 MG/KG RPTOAN 38,221,1975
ORL-MUS LD50:1031 MG/KG GISAAA 36(9), 15, 1971
IPR-MUS LD50:121 MG/KG AEPPAE 244,17, 1962
IVN-MUS LD50:38 MG/KG ACRAE3 38, 770, 1997
IMS-MUS LD50:255 MG/KG RPTOAN 38, 221, 1975
IVN-DOG LD50:202 MG/KG EQSSDX 1, 1, 1975
ORL-GPG LD50:916 MG/KG GISAAA 36(9), 15, 1971

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (TREMOR)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (ATAXIA)
CARDIAC (OTHER CHANGES)
VASCULAR (BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION)
LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (OTHER CHANGES)
PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
EFFECTS ON FERTILITY (PRE-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
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 - - - - - - - - -
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
HARMFUL
R 22
HARMFUL IF SWALLOWED.
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

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

WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-TWA 0.2 MG(MN)/M³
OSHA PEL (GEN INDU): CL 5 MG(MN)/M³
OSHA PEL (CONSTRUCT): CL 5 MG(MN)/M³
OSHA PEL (SHIYARD): CL 5 MG(MN)/M³
OSHA PEL (FED CONT): CL 5 MG(MN)/M³

DTLVS* 3,149,1971
MSHA STANDARD-AIR: CL 5 MG(MN)/M³
OEL-AUSTRALIA: TWA 5 MG(MN)/M³, JAN1993
OEL-BELGIUM: TWA 5 MG(MN)/M³, JAN1993
OEL-DENMARK: TWA 2.5 MG(MN)/M³, JAN1999
OEL-FINLAND: TWA 0.5 MG(MN)/M³, JAN1999
OEL-HUNGARY: TWA 0.3 MG(MN)/M³, STEL 0.6 MG(MN)/M³, JAN1993
OEL-JAPAN: OEL 0.3 MG(MN)/M³, RESPIRABLE DUST, JAN1999
OEL-THE NETHERLANDS: MAC-TGG 1 MG(MN)/M³, MAC-K 3 MG(MN)/M³, JAN1999
OEL-POLAND: MAC(TWA) 0.3 MG(MN)/M³, MAC(C) 5 MG(MN)/M³, JAN1999
OEL-SWEDEN: NGV 1 MG(MN)/M³, TGV 2.5 MG(MN)/M³ (RESP. DUST), JAN1993
OEL-SWEDEN: NGV 2.5 MG(MN)/M³, TGV 5 MG(MN)/M³ (TOTAL DUST), JAN1993
OEL-UNITED KINGDOM: TWA 5 MG(MN)/M³, SEP2000
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NOHS 1974: HZD 84353; NIS 7; TNF 320; NOS 12; TNE 4916
NOES 1983: HZD 84353; NIS 6; TNF 788; NOS 16; TNE 13961; TFE 9451

EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-SA7/SHE; B SUBTILIS
REC ASSAY
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

U.S. INFORMATION

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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

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