MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -
CATALOG #: M0753
NAME: MOLYBDENUM TRIOXIDE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
CAS #: 1313-27-5
MF: MOO3
EC NO: 215-204-7
SYNONYMS
MOLYBDENUM(VI) OXIDE * MOLYBDENUMPEROXIDE * MOLYBDIC ACID ANHYDRIDE *
MOLYBDIC ANHYDRIDE * MOLYBDIC TRIOXIDE * NATURAL MOLYBDITE *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
LIVER
KIDNEYS
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
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.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -
EXTINGUISHING MEDIA
NONCOMBUSTIBLE.
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.
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.

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

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSOAL 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.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
IRRITANT.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -
PHYSICAL PROPERTIES
MELTING POINT: 795 C
SPECIFIC GRAVITY: 4.692

SECTION 10. - - - - - - - STABILITY AND REACTIVITY - - - - - - -
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
STRONG ACIDS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

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

CHRONIC EFFECTS
TARGET ORGAN(S):
LIVER, KIDNEYS
RTECS #: QA4725000
MOLYBDENUM TRIOXIDE

TOXICITY DATA
ORL-RAT LD50:2689 MG/KG PERDW# 18JUN1991
IHL-RAT LC50:>5840 MG/M3/4H PERDW# 18JUN1991
SKN-RAT LD50:2 GM/KG PERDW# 18JUN1991
IPR-MUS LD50:141 MG/KG GTPZAB 9(6),40,1965
SCU-MUS LD50:94 MG/KG ZVKOA6 19,186,1974

TARGET ORGAN DATA
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
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 - - - - - - -
BURY IN A LANDFILL SITE APPROVED FOR THE DISPOSAL OF CHEMICAL
AND HAZARDOUS WASTES.
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: 042-001-00-9
HARMFUL
R 36/37
IRRITATING TO EYES AND RESPIRATORY SYSTEM.
R 48/20/22
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED
EXPOSURE THROUGH INHALATION AND IF SWALLOWED.
S 22
DO NOT BREATHE DUST.
S 23
DO NOT BREATHE FUMES.
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
ACGIH TLV-TWA 10 MG(MO)/M3 DTLVS* TLV/BEI, 1999
MSHA STANDARD-AIR:TWA 5 MG(MO)/M3 DTLVS* 3,173,1971
OSHA PEL (GEN INDU): 8H TWA 5 MG(MO)/M3
CFR 29, 1910.1000, 1994
OSHA PEL (CONSTRUC): 8H TWA 5 MG(MO)/M3
CFR 29, 1926.55, 1994
OSHA PEL (SHIPYARD): 8H TWA 5 MG(MO)/M3
CFR 29, 1915.1000, 1993
OSHA PEL (FED CONT): 8H TWA 5 MG(MO)/M3
CFR 41, 50-204.50, 1994

OEL-AUSTRALIA: TWA 5 MG(MO)/M3, JAN 1993
OEL-AUSTRIA: MAK 15 MG(MO)/M3, JAN 1999
OEL-BELGIUM: TWA 5 MG(MO)/M3, JAN 1993
OEL-DENMARK: TWA 5 MG(MO)/M3, JAN 1999
OEL-FINLAND: TWA 5 MG(MO)/M3, JAN 1999
OEL-FRANCE: VME 5 MG(MO)/M3, VLE 10 MG(MO)/M3, JAN 1999
OEL-GERMANY: MAK 15 MG(MO)/M3, JAN 1999
OEL-THE NETHERLANDS: MAC-TGG 5 MG(MO)/M3, JAN 1999
OEL-THE PHILIPPINES: TWA 5 MG(MO)/M3, JAN 1993
OEL-POLAND: MAC(TWA) 4 MG(MO)/M3, MAC(STEL) 10 MG(MO)/M3, JAN 1999
OEL-SWEDEN: NGV 10 MG(MO)/M3 (TOTAL DUST), JAN 1999
OEL-SWEDEN: NGV 5 MG(MO)/M3 (RESP. DUST), JAN 1999
OEL-SWITZERLAND: MAK-W 10 MG(MO)/M3, JAN 1999
OEL-TURKEY: TWA 5 MG(MO)/M3, JAN 1993
OEL-UNITED KINGDOM: TWA 10 MG(MO)/M3, STEL 20 MG(MO)/M3, SEP 2000

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001
NTP CARCINOGENESIS STUDIES (INHALATION); SOME EVIDENCE: MOUSE
 NTP TR* NTP-TR-462, 1997
NTP CARCINOGENESIS STUDIES (INHALATION); EQUIVOCAL EVIDENCE: RAT
 NTP TR* NTP-TR-462, 1997

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
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