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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

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/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.  
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

OSHA PEL (GEN INDU):8H TWA 5 MG(MO)/M3  
CFRGBR 29,1910.1000,1994  
OSHA PEL (CONSTRUC):8H TWA 5 MG(MO)/M3  
CFRGBR 29,1926.55,1994  
OSHA PEL (SHIPYARD):8H TWA 5 MG(MO)/M3  
CFRGBR 29,1915.1000,1993  
OSHA PEL (FED CONT):8H TWA 5 MG(MO)/M3  
CFRGBR 41,50-204.50,1994  
OEL-AUSTRALIA: TWA 5 MG(MO)/M3, JAN1993  
OEL-AUSTRIA: MAK 15 MG(MO)/M3, JAN1999  
OEL-BELGIUM: TWA 5 MG(MO)/M3, JAN1993  
OEL-DENMARK: TWA 5 MG(MO)/M3, JAN1999  
OEL-FINLAND: TWA 5 MG(MO)/M3, JAN1999  
OEL-FRANCE: VME 5 MG(MO)/M3, VLE 10 MG(MO)/M3, JAN1999  
OEL-GERMANY: MAK 15 MG(MO)/M3, JAN1999  
OEL-THE NETHERLANDS: MAC-TGG 5 MG(MO)/M3, JAN1999  
OEL-THE PHILIPPINES: TWA 5 MG(MO)/M3, JAN1993  
OEL-POLAND: MAC(TWA) 4 MG(MO)/M3, MAC(STEL) 10 MG(MO)/M3, JAN1999  
OEL-SWEDEN: NGV 10 MG(MO)/M3 (TOTAL DUST), JAN1999  
OEL-SWEDEN: NGV 5 MG(MO)/M3 (RESP. DUST), JAN1999  
OEL-SWITZERLAND: MAK-W 10 MG(MO)/M3, JAN1999  
OEL-TURKEY: TWA 5 MG(MO)/M3, JAN1993  
OEL-UNITED KINGDOM: TWA 10 MG(MO)/M3, STEL 20 MG(MO)/M3, SEP2000  
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;  
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV  
NOHS 1974: HZD 84549; NIS 6; TNF 175; NOS 14; TNE 5269  
NOES 1983: HZD 84549; NIS 16; TNF 1346; NOS 28; TNE 48418; TFE 1530  
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY  
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001  
NTP CARCINOGENESIS STUDIES (INHALATION);SOME EVIDENCE:MOUSE  
NTPTR\* NTP-TR-462,1997  
NTP CARCINOGENESIS STUDIES (INHALATION);EQUIVOCAL EVIDENCE:RAT  
NTPTR\* 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  
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