MATERIAL SAFETY DATA SHEET

SECTION 1. --------------- CHEMICAL IDENTIFICATION----------------
CATALOG #: 244643
NAME: TIN(II) OXIDE, POWDER, 10 MICRON, 99+%

SECTION 2. ------------ COMPOSITION/INFORMATION ON INGREDIENTS----------------
CAS #: 21651-19-4
MF: OSN
EC NO: 244-499-5
SYNONYMS
STANNOUS OXIDE * TIN OXIDE (OSHA) * TIN OXIDE (SNO) * TIN OXIDE (Sn2O2) * TIN(II) OXIDE *

SECTION 3. ------------ HAZARDS IDENTIFICATION----------------
DATA NOT AVAILABLE

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
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----------------
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, 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.

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.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP CONTAINER CLOSED.
STORE IN A COOL DRY PLACE.
AIR SENSITIVE

SECTION 9. ------------ PHYSICAL AND CHEMICAL PROPERTIES----------------
DATA NOT AVAILABLE

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

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

ACUTE EFFECTS
INORGANIC TIN SALTS ARE POORLY ABSORBED INTO THE BODY. WHEN
PARENTERALLY ADMINISTERED TIN SALTS ARE HIGHLY TOXIC. TIN OXIDE
INHALED AS A DUST OR FUME LEADS TO A BENIGN PNEUMOCONIOSIS WITH NO
SIGN OF INTERFERENCE WITH PULMONARY FUNCTION. DEPOSITED DUST APPEARS
MODULAR WITH THE PARTICLES BEING MOSTLY EXTRACELLULAR. NO NECROSIS,
FOREIGN-BODY GIANT-CELL REACTION OR COLLAGEN FORMATION HAS BEEN SEEN.
TIN SALTS THAT HAVE GAINED ACCESS TO THE BLOOD STREAM ARE HIGHLY
TOXIC AND PRODUCE NEUROLOGIC DAMAGE AND PARALYSIS. WITH MOST COMMON
TIN SALTS, THE TOXICITY PROFILE IS COMPLICATED BY HYDROLYSIS IN BODY
FLUIDS PRODUCING UNPHYSIOLOGIC PH VALUES. THE REPORTED SYMPTOMS OF
HYPEREMIA, VASCULAR CHANGES WITH BLEEDING IN THE CENTRAL NERVOS
SYSTEM, LIVER, HEART AND OTHER ORGANS MAY BE DUE TO TIN ITSELF OR TO
THE UNPHYSIOLOGICAL PH CHANGES. INGESTION PRODUCES VOMITING DUE TO
THE GASTRIC IRRITATION FROM THE ACTIVITY AND ASTRINGENCY OF TIN
COMPONDS. INJECTION OF INORGANIC TIN SALTS Produces DIARRHEA, MUSCLE
PARALYSIS AND TWITCHING.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE EYE IRRITATION.
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

RTECS #: XQ3700000
TIN MONOXIDE

ADDITIONAL INFORMATION
ACGIH TLV-TWA: 2 MG/M3, TIN OXIDE AND INORGANIC COMPOUNDS AS TIN.
OSHA PEL-TWA: 2 MG/M3.
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 ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - -
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
OSHA PEL (SHIPYARD):8H TWA 15 MG/M3, TOTAL DUST
CFRGR9 29,1915.1000,1993
OSHA PEL (SHIPYARD):8H TWA 5 MG/M3, RESPIRABLE FRACTION
CFRGR9 29,1915.1000,1993
NOES 1983: HZD 82157; NIS 4; TNF 71; NOS 4; TNE 2018; TFE 737
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

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