

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
TITANIUM OXIDE

GENERAL INFORMATION

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

COMPANY'S STREET: 37 RAMLAND ROAD
COMPANY'S CITY: ORANGEBURG
COMPANY'S STATE: NEW YORK
COMPANY'S ZIP CODE: 10962
EMERGENCY CHEMTREC #: 800-262-8200
COMPANY'S EMERGENCY TEL. #: 800-424-9300 (LOCAL)
703-527-3887 (INTERNATIONAL)

COMPANY'S TEL #: 845-494-2940
DATE MSDS PREPARED: 02/03/05
DATE MSDS REVISED: 06/14/11

1. IDENTIFICATION

CHEMICAL NAME: TITANIUM OXIDE, TITANIUM DIOXIDE
SYNONYMS: TITANIUM SESQUIOXIDE,
CHEMICAL FORMULA: TiO₂, TiO, Ti₂O₃, Ti₃O₅, Ti₅O₇, TiO₃, TiO_x
CHEMICAL FAMILY: METAL OXIDE
CAS #: 12137-20-1, 1344-54-3, 12065-65-5, 13463-67-7

2. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: N/A
RISK PHRASES: N/A
HMIS RATINGS:
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

3. PHYSICAL DATA

APPEARANCE: WHITE, OFF-WHITE, PURPLE TO BLACK, BLUE
PELLETS, TARGETS, PIECES OR POWDER

MELTING POINT: 1800 C
DENSITY (G/CC): 4.26
EVAPORATION RATE: ZERO
VAPOR PRESSURE (MM HG): ZERO
VAPOR DENSITY (AIR=1): N/A
% VOLATILE: ZERO
SOLUBILITY IN WATER: INSOLUBLE

4. FIRE AND EXPLOSION HAZARDS DATA

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: NO DATA
FLAMMABLE LIMITS IN AIR:
LOWER: N/A
UPPER: N/A
EXTINGUISHING MEDIA: NOT CONSIDERED A FIRE HAZARD. USE WATER,
CARBON DIOXIDE, AND DRY CHEMICAL

FIRE FIGHTING PROCEDURES: EXTINGUISHING AGENTS, DRY SAND, OR DRY GROUND DOLOMITE. WEARING NIOSH/MSHA APPROVED SELFCONTAINED BREATHING APPARATUS, FLAME AND CHEMICAL RESISTANT CLOTHING; HATS, BOOTS AND GLOVES. IF WITHOUT RISK, REMOVE MATERIAL FROM FIRE AREA. COOL CONTAINER WITH WATER FROM MAXIMUM DISTANCE.

5. HEALTH HAZARD INFORMATION

OSHA (PEL):	NONE ESTABLISHED
ACGIH (TLV):	NONE ESTABLISHED
CARCINOGENICITY:	NTP: NO, IARC: NO, OSHA: NO, EPA: NO
HEALTH HAZARDS:	N/K
MOST LIKELY ROUTES OF ENTRY:	INGESTION
EFFECTS OF OVEREXPOSURE:	
ACUTE EFFECTS:	
INGESTION:	N/K
SKIN CONTACT:	N/K
EYE CONTACT:	MAY CAUSE IRRITATION
INHALATION:	MAY CAUSE IRRITATION
CHRONIC EFFECTS:	
SUBACUTE TO CHRONIC TOXICITY:	TITANIUM AND TITANIUM COMPOUNDS ARE CONSIDERED PHYSIOLOGICALLY INERT. THERE ARE NO REPORTED CASES IN THE LITERAURE WHERE TITANIUM AS SUCH HAS CAUSED HUMAN INTOXICATION.
INGESTION:	N/K
SKIN CONTACT:	N/K
EYE CONTACT:	N/K
INHALATION:	N/K

6. EMERGENCY AND FIRST AID PROCEDURES

INGESTION:	NO DATA AVAILABLE. IF REQUIRED, SEEK MEDICAL ATTENTION.
SKIN:	REMOVE CONTAMINATED CLOTHING, WASH SKIN WITH LARGE AMOUNTS OF WATER.
EYES:	IMMEDIATELY FLUSH EYES, INCLUDING UNDER EYELIDS, WITH LARGE AMOUNTS OF WATER.
INHALATION:	NO DATA AVAILABLE. IF REQUIRED. SEEK MEDICAL ATTENTION.

7. REACTIVITY DATA

STABILITY:	STABLE
INCOMPATIBILITY:	OXIDIZING AGENTS
CONDITIONS TO AVOID:	NO DATA
HAZ. DECOMPOSITION PRODUCTS:	METAL OXIDE FUME
HAZ. POLYMERIZATION:	WILL NOT OCCUR

8. SPILL OR LEAK PROCEDURES

IF MATERIAL IS RELEASED/SPILLED:	WEAR APPROPRIATE RESPIRATORY AND PROTECTIVE EQUIPMENT. COVER SPILL WITH DRY SAND OR VERMICULITE. MIX WELL AND CAREFULLY TRANSFER TO A CONTAINER.
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WASTE DISPOSAL METHOD: DISPOSAL MUST BE MADE IN ACCORDANCE WITH
FEDERAL, STATE AND LOCAL EPA REGULATIONS.

9. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: HIGH EFFICIENCY PARTICULATE RESPIRATOR.
VENTILATION REQUIREMENTS: LOCAL EXHAUST
PROTECTIVE GLOVES: RUBBER
EYE PROTECTION: ANSI APPROVED SAFETY GOGGLES

10. HANDLING AND STORAGE

HANDLING: KEEP CONTAINER TIGHTLY CLOSED. WASH
THOROUGHLY AFTER USE.
STORAGE: STORE IN A COOL, DRY, WELL VENTILATED AREA.
WARNING: IRRITATES EYES AND LUNGS.

11. TRANSPORT INFORMATION

UN NUMBER: N/A
RAIL/ROAD (RID/ADR): NOT RESTRICTED
MARITIME TRANSPORT (IMO/MDG): NOT RESTRICTED
AIR TRANSPORT (ICAO-IATA): NOT RESTRICTED

12. TOXICITY DATA

CARCINOGENICITY: NO CLASSIFICATION DATA ON CARCINOGENIC
PROPERTIES OF THIS MATERIAL IS AVAILABLE
FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.
ADDITIONAL INFORMATION: TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND
CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT
FULLY KNOWN.

13. OTHER INFORMATION

THIS SAFETY DATA SHEET SHOULD BE USED IN CONJUNCTION WITH TECHNICAL SHEETS.
IT DOES NOT REPLACE THEM. THE INFORMATION GIVEN IS BASED ON OUR KNOWLEDGE
OF THIS PRODUCT, AT THE TIME OF PUBLICATION. IT IS GIVEN IN GOOD FAITH. THE
ATTENTION OF THE USER IS DRAWN TO THE POSSIBLE RISKS INCURRED BY USING THE
PRODUCT FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS INTENDED.
THIS DOES NOT IN ANY WAY EXCUSE THE USER FROM KNOWING AND APPLYING ALL THE
REGULATIONS GOVERNING HIS ACTIVITY. IT IS THE SOLE RESPONSIBILITY OF THE USER
TO TAKE ALL PRECAUTIONS REQUIRED IN HANDLING THE PRODUCT. THE AIM OF THE
MANDATORY REGULATIONS MENTIONED IS TO HELP THE USER TO FULFILL HIS
OBLIGATIONS REGARDING THE USE OF HAZARDOUS PRODUCTS.