

MATERIAL SAFETY DATA SHEET

MC-X-01046 (3/85)

SPEC./MSDS NUMBER

DATE 10-30-85

PRODUCT IDENTIFICATION

TRADE NAME Rutile, Granular and Flour		GENERIC NAME Rutile Ore	
MANUFACTURER'S NAME Continental Mineral Processing Corp.		CAS NUMBER 134663-67-7	
ADDRESS (STREET) 11817 Mosteller Road		PHONE NUMBER (EMERGENCY) 513-771-7190	
CITY Cincinnati,	STATE Ohio	ZIP 45241	CHEMICAL STRUCTURE TiO ₂

I • PRODUCT INGREDIENTS

CHEMICAL AND/OR COMMON NAME	CAS NUMBER	%	TLV/PEL
TiO ₂ Titanium Dioxide	134663-67-7	97.0 Min.	10mg/m ³
SiO ₂ Free Silica (Quartz)	1480-60-7	.95Max.	10mg/m ³ - (SiO ₂ +2)
ZrO ₂ Zirconium Oxide	14940-68-2	1.0 Max.	5mg/m ³
Fe ₂ O ₃ Iron Oxide	1309-37-1	1.0 Max.	5mg/m ³
Al ₂ O ₃ Aluminum Oxide	1344-28-1	.5 Max.	10mg/m ³

II • PHYSICAL DATA

BOILING POINT Not Applicable	VAPOR PRESSURE Not Applicable	SPECIFIC GRAVITY 4.0 - 4.6	MELTING POINT 1640 C
SOLUBILITY IN WATER Insoluble	VAPOR DENSITY (AIR=1) Will not evaporate	PERCENT VOLATILE Not Volatile	EVAPORATION RATE (=1) Not Applicable

APPEARANCE AND ODOR

III • FIRE AND EXPLOSION DATA

FLASH POINT Will not burn	FLAMMABLE LIMITS	FLAMABLE LIMITS Not applicable	LEL N/A	UEL N/A
EXTINGUISHING MEDIA Not flammable				
SPECIAL FIREFIGHTING PROCEDURES None, use whatever procedures are necessary for surrounding products				
UNUSUAL FIRE OR EXPLOSION HAZARDS Does not burn or explode.				

IV • HEALTH HAZARD INFORMATION

HAZARD BY ROUTES OF EXPOSURE (Indicate chronic and acute)

INHALATION Deposits on mucous membranes - nuisance dust.
INGESTION No adverse effects are seen in animals after ingestion.
EYE Irritant if particles lodge in eye, physical discomfort only.
SKIN CONTACT/ABSORPTION Solid particles - will not absorb.
SIGNS AND SYMPTOMS ASSOCIATED WITH EXPOSURE OVER TLV No harmful effects are known to be caused by exposure of Titanium compounds above the published TLV limit.
MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED None known.
ANY OF PART I LISTED AS CARCINOGENS? (NTP, IARC, OSHA) No part or ingredient listed as a carcinogen by IARC, NTP/ASHA or ACGIH

HEALTH HAZARD INFORMATION CONTINUED ON BACK

V • HEALTH HAZARD INFORMATION (Continued)

EMERGENCY/FIRST AID PROCEDURES

INHALATION

Not expected to be a problem.

INGESTION Not expected to be a problem. However, if greater than 1/2 liter ingested, immediately give 1 to 2 glasses of water and call a physician.

EYE CONTACT

Remove deposit and irrigate.

SKIN CONTACT

Wash contact areas with soap and water for normal hygienic effectiveness.

SKIN ABSORPTION

Not a problem.

VI • CONDITIONS FOR SAFE USE (When over TLV)

RESPIRATORY PROTECTION Avoid breathing dust. Exposure limit: OSHA 8-Hr. Time Weighted Average (TWA) for airborne Titanium compounds is 10 mg/m³. If exposure limit is exceeded, use OSHA permissible respirator. (See NIOSH Publication No. 76-189 available from HHS NIOSH, 4676 Columbia Parkway, Cincinnati, Ohio 45226.)

EYE PROTECTION: Protect from dust particles and wear safety glasses.

PROTECTIVE GLOVES: Optional for personal convenience.

OTHER PROTECTIVE CLOTHING/EQUIPMENT

Optional

VENTILATION REQUIREMENTS Adequate to maintain exposure level below OSHA Standards. Excessive concentrations of nuisance dust in the workroom air may seriously reduce visibility and cause unpleasant deposits in eyes, ears, and nasal passages.

IS MATERIAL STABLE?

Yes

WILL HAZARDOUS POLYMERIZATION OCCUR?

Will not occur

INCOMPATIBILITY

None known

CONDITIONS TO AVOID

Use adequate

ventilation; comply with OSHA regulations.

HAZARDOUS DECOMPOSITION PRODUCTS

Will not decompose.

VIII • SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED

Sweep up spillage and collect.

WASTE DISPOSAL METHOD

Comply with Federal, State and Local regulations. If approved, may be transferred to land disposal site.

RCRA REGULATED

Yes No

RCRA NUMBER

CERCLA (Superfund) REPORTABLE QUANTITY

DOT REGULATED

Yes No

DOT PROPER SHIPPING NAME

DOT HAZARD CLASS

DOT NUMBER

IX • SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS FOR HANDLING AND STORAGE Use adequate ventilation and dust collection. Practice good housekeeping. Do not permit dust to collect on walls, floor, sills, ledges, machinery and equipment. Wash clean and test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment.

OTHER PRECAUTIONS

PREPARED BY

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PHONE NO.

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TITLE

Plant Manager

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, THE MANUFACTURER MAKES NO WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.