

MATERIAL SAFETY DATA SHEET



TAM Ceramics, LLC (#220821)
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For Chemical Emergency
Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC Day or Night
DOMESTIC NORTH AMERICA 800-424-9300
INTERNATIONAL CALL: 703-527-3887 (collect calls accepted)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: Ceramic Rutile 50 Lb Bag Date of Preparation: 01/01/2008
Chemical Name: Rutile
CAS-No.: 1317-80-2
Product code: 1014084

2. COMPOSITION/INFORMATION ON INGREDIENTS

Exposure limits

| Components | CAS-No | Weight % | OSHA | ACGIH |
|------------|-----------|----------|-----------------|-----------------|
| Rutile | 1317-80-2 | 100% | Not established | Not established |

OSHA particulate (not otherwise regulated) limit: 5 mg/m³ (respirable); 15 mg/m³ (total).

3. HAZARDS IDENTIFICATION

Emergency Overview

Caution

| | |
|-------------------------------|-----------------------|
| Color: White | Health: 1 |
| Physical state: Powder | Fire: 0 |
| Odor: Odorless | Instability: 0 |

NFPA 704

Avoid dust formation. May cause physical irritation.

Potential Health Effects

Principle routes of exposure: Inhalation, ingestion, skin and eye contact.

Eye contact: May cause slight irritation. Resin particles, like other inert materials, are mechanically irritating to eyes.

Skin contact: Prolonged skin contact may cause skin irritation and/or dermatitis.

Inhalation: Product dust may be irritating to eyes, skin and respiratory system. Over-exposure by inhalation may cause respiratory irritation.

Ingestion: May irritate digestive tract.

Chronic toxicity: Excessive inhalation of dust may cause chemical pneumonitis, cyanosis, and pulmonary edema.

HMIS

Health: 1
Fire: 0
Physical hazard: 0
PPE: E

4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.

Skin contact: Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, call a physician.

Ingestion: Drink plenty of water. Consult a physician if necessary. Do not induce vomiting without medical advice.

Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: No data available

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

Unusual hazards: Dust may form explosive mixture in air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid dust formation. Evacuate area of all unnecessary personnel. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Fine dust dispersed in air may ignite.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Use approved industrial vacuum cleaner for removal. Wear personal protective equipment. Dispose of promptly.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Provide appropriate exhaust ventilation at places where dust is formed. Remove all sources of ignition. Wash hands thoroughly before eating, drinking or smoking.

Storage: Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Respiratory protection: Use NIOSH approved respirator when ventilation is inadequate.

Hand protection: Impervious gloves.

Skin and body protection: Lightweight protective clothing.

Eye protection: Safety glasses with side-shields.

Exposure limits: See Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------------------------|-------------------|-------------------------------------|-------------------|
| Color: | White | Physical state: | Powder |
| Odor: | Odorless | Molecular weight: | No data available |
| Boiling point/range (°C): | No data available | pH: | No data available |
| Melting point/range (°C): | 1840 | Specific gravity (Water =1): | 3.800 - 4.300 |
| Vapor pressure (mmHg): | No data available | Evaporation rate (Water =1): | No data available |
| Water solubility (mg/l): | Insoluble | VOC content (%) | No data available |

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Polymerization: Will not occur.

Hazardous decomposition products: None under normal use.

Materials to avoid: None known.

Conditions to avoid: Avoid dust formation.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

12. ECOLOGICAL INFORMATION

Aquatic toxicity: No information available

Persistence and degradability: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

14. TRANSPORT INFORMATION

DOT:

Proper shipping name: Not regulated.

TDG (Canada):

Proper shipping name: Not regulated.

15. REGULATORY INFORMATION

U.S. Regulations:

Not subject to the provisions of SARA 313 Title III

Not subject to TSCA 12(b) Export Notification

State Regulations

This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

Rutile (100%)

PARTK: Listed

Canadian WHMIS

WHMIS hazard class: D2B Toxic materials.

International Inventories

TSCA 8(b): All the ingredients are on the TSCA list.

Canadian DSL: All the ingredients are on the DSL.

EINECS: All the ingredients are on the EINECS list.

Phillipines (PICCS): Listed.

Japan (ENCS): Listed.

Korea (KECL): Listed.

China (IECS): Listed.

Australia (AICS): Listed.

16. OTHER INFORMATION

For Industrial Use Only

Prepared by: Product Manufacturer, TAM Ceramics, LLC

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

End of Safety Data Sheet