



MATERIAL SAFETY DATA SHEET
COMPLIES WITH 29 CFR 1910.1200.
OSHA HAZARD COMMUNICATION RULE

CHEMICAL IDENTITY

LABEL IDENTITY	BARIUM TITANATE			
FORMULA	BaTiO3			
CHEMICAL FAMILY	Metal Titanate			
CAS REGISTRY NUMBER	12047-27-7, LISTED ON TSCA.			
HAZARDOUS INGREDIENTS	CAS NUMBER	%	TLV	OSHA/PEL
Barium Titanate (BaTiO3)	12047-27-7	99.9	0.5mg/m3 (asBa)	0.5mg/m3
Barium Oxide (BaO)	1304-28-5	NA	0.5mg/m3	0.5mg/m3
Titanium Oxide (TiO2)	13463-67-7	NA	10mg/m3	10mg/m3

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR	White powder, pieces or pressed, odorless
BOILING POINT	NA
DENSITY (gm/cc)	5.95
VAPOR PRESSURE @ 20°	NA
% VOLATILE BY VOLUME (%)	NA
REACTION WITH WATER	None
EVAPORATION RATE (H2O=1)	NA
SOLUBILITY IN WATER	Insoluble
MELTING POINT	1654°C
OTHER	Soluble in hot water, aqua regia, HNO3, insoluble in dilute acid

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	NA
AUTOIGNITION TEMPERATURE (°C)	NA
FLAMMABILITY	Non-flammable
EXTINGUISHING MEDIA	Non-flammable. This material is not combustible nor will it support combustion.
SPECIAL FIRE FIGHTING PROCEDURES	Wear self-contained breathing apparatus to avoid dust generated during fire fighting.
UNUSUAL FIRE & EXPLOSION HAZARDS	Non-flammable



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HEALTH HAZARD INFORMATION

TOXICITY DATA: No data. Toxic hazard rate for Barium Titanate: Unknown. Animal experiments show low toxicity. Toxic hazard rate for Titanium compounds: This material is physiologically inert. There are no reported cases where Titanium compounds have caused intoxication.

HMIS RATING:

HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0 PERSONAL PROTECTION: E

ROUTES OF ENTRY

**INHALATION: Yes
SKIN: Yes
INGESTION: Yes**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Lung Disorders
EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: barium compounds may cause local irritation to the nose, throat and mucous membranes. Long term exposure to Barium compounds can lead to baritosis, a benign pneumoconiosis.

CARCINOGENICITY: No NTP: No IARC MONOGRAPHS: No OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:

INGESTION: do not induce vomiting, seek medical attention immediately.
INHALATION: remove individual from exposure to fresh air, seek medical attention.
SKIN CONTACT: wash affected area with soap & water, seek medical attention.
EYE CONTACT: flush eyes with copious amounts of water, seek medical attention.

REACTIVITY DATA

STABILITY	Stable
CONDITIONS CONTRIBUTING TO UNSTABILITY	None known
INCOMPATIBILITY (MATERIALS TO AVOID)	Acids
HAZARDOUS DECOMPOSITION PRODUCTS	Ba fumes upon thermal decomposition
HAZARDOUS POLYMERIZATION	Will Not Occur
CONDITIONS TO AVOID	None known



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SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Try to keep material dry and away from acid. Sweep or scoop spilled material. Handle with adequate ventilation. For nuisance dust, see OSHA 29 CFR 1910-94; Ventilation: See CFR 1910-1000 (air contaminants.) Respirators may be required.

WASTE DISPOSAL METHOD:

Waste containing more than 0.2% soluble Barium is hazardous. This material may contain more than 0.2% soluble if pH is low. It can be rendered non-hazardous by mixing with excess sulfate to form insoluble barium sulfate. Dispose of in accordance with local, state and federal regulations.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION	NIOSH approved respirator is required if TLV and PEL exposure limits are exceeded.
LOCAL EXHAUST	Recommended
MECHANICAL (general)	Recommended
SPECIAL	NA
OTHER	NA
PROTECTIVE GLOVES	Required
EYE PROTECTION	Safety glassed required
OTHER PROTECTIVE EQUIPMENT	None necessary

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

Store in tightly closed container, store in cool, dry place away from acids, wash hands and face thoroughly after handling and before meals.

TRANSPORTATION REQUIREMENTS	DOT CLASS:	Not Classified
	UN NUMBER:	1564
	IMCO CLASS:	6.1
	OTHER:	ND
PRECAUTIONARY LABELING		NONE

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NA= NOT APPLICABLE

ND= NO DATA FOUND