

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
BISMUTH ALUMINUM OXIDE

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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DATE MSDS PREPARED: 05/18/10
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1. PRODUCT IDENTIFICATION

PRODUCT NAME: BISMUTH ALUMINUM OXIDE
FORMULA: BiAl3
CAS #: 1304-76-3/1344-28-1

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY (H₂O=1): N/A
VAPOR DENSITY: N/A
VAPOR PRESSURE: N/A
EVAPORATION RATE: N/A
% VOLATILES: N/A
SOLUBILITY IN H₂O: INSOLUBLE
APPEARANCE AND ODOR: BEIGE TARGET, ODORLESS



3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: Xi IRRITANT
RISK PHRASES: 36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM, AND SKIN
HMIS RATINGS:
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: N/A
EXTINGUISHING MEDIA: CARBON DIOXIDE, EXTINGUISHING POWDER, OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM.
SPECIAL HAZARDS: IN CASE OF FIRE, METAL OXIDE FUMES MAY BE RELEASED

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:

SKIN:	POWDER: IRRITANT TO SKIN AND MUCOUS MEMBRANES
EYE:	POWDER: IRRITATING EFFECT
CHRONIC EFFECTS:	BISMUTH AND BISMUTH COMPOUNDS RE OFTEN POORLY ABSORBED. SHOULD ABSORPTION OCCUR, HOWEVER, EXPOSURE MAY CAUSE LOFF OF APPETITE, HEADACHE, SKIN RASH, EXODERMATITIS, KIDNEY INJURY, AND JAUNDICE. REPEATED OR PROLONGED EXPOSURE MAY CAUSE A BISMUTH LINE OR BLACK SPOTS ON THE GUMS, FOUL BREATH, AND SALIVATION. ALUMINUM OXIDE HAS CAUSE TUMORS AND NEOPLASMS IN EXPERIMENTAL ANIMALS VIA IMPLANT. ALUMINUM MAY BE IMPLICATED IN ALZHEIMERS DISEASE. INHALATION OF ALUMINNUM-CONTAINING DUSTS MAY CAUSE PULMONARY DISEASE.

6. STABILITY

STABILITY:	STABLE
CONDITIONS TO AVOID:	NONE
MATERIAL TO AVOID:	OXIDIZING AGENTS, ACIDS, BASES, INTERHALOGENS, HALOCARBONS
DANGEROUS REACTIONS:	NONE KNOWN
HAZARDOUS DECOMPOSITION PRODUCTS:	METAL OXIDE FUMES

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION:	REMOVE TO FRESH AIR AND PROVIDE ARTIFICIAL RESPIRATION IF NECESSARY. SEEK IMMEDIATE MEDICAL ADVICE.
INGESTION:	SEEK IMMEDIATE MEDICAL ATTENTION.
SKIN:	WASH SKIN THOROUGHLY WITH MILD SOAP AND WATER. RINSE THOROUGHLY. SEEK IMMEDIATE MEDICAL ADVICE.
EYE:	FLUSH EYES WITH PLENTY OF WATER. SEEK IMMEDIATE MEDICAL ADVICE.

8. HANDLING AND STORAGE

HANDLING & STORAGE:	STORE IN A COOL, DRY PLACE IN TIGHTLY SEALED CONTAINERS. PREVENT FORMATION OF DUST. ENSURE GOOD VENTILATION. NO SPECIAL REQUIREMENTS ARE NECESSARY IF USED CORRECTLY.
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9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:	
RESPIRATION:	WEAR NIOSH APPROVED DUST-MIST VAPOR RESPIRATOR.
VENTILATION:	LOCAL EXHAUST TO MAINTAIN CONCENTRATION AT OR BELOW THE PEL, TLV.
PROTECTIVE GLOVES:	RUBBER GLOVES.
EYE PROTECTION:	SAFETY GLASSES
PROTECTIVE CLOTHING:	PROTECTIVE GEAR SUITABLE TO PREVENT CONTAMINATION.
WASTE DISPOSAL METHOD:	DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

LD/LC50 VALUES:	
BISMUTH OXIDE:	ORAL – LD50: 10 gm/kg (MOUSE), 5 gm/kg (RAT)

CARCINOGENICITY:	
BISMUTH OXIDE:	NO CLASSIFICATION DATA ON CARCINOGENIC PROPERTIES OF THIS MATERIAL IS AVAILABLE FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.
ALUMINUM OXIDE:	ACGIH A4: NOT CLASSIFIABLE AS A HUMAN CARCINOGEN – INADEQUATE DATA ON WHICH TO CLASSIFY THE AGENT IN TERMS OF ITS CARCINOGENICITY IN HUMANS AND/OR ANIMALS.
	THE REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES CONTAINS TUMORIGENIC AND/OR CARCINOGENIC AND/OR NEOPLASTIC DATA FOR COMOUNDS IN THIS PRODUCT.
ADDITIONAL INFORMATION:	TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

11. TRANSPORTATION DATA

UN NUMBER:	NONE
HAZARD CLASS:	NONE
ADR/RID CLASS:	NONE
IMDG CLASS:	NONE
ICAO/IATA CLASS:	NONE

12. 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.