SUPPLIER

MATERION

MATERIAL SAFETY DATA SHEET

GENERATED 03/15/2011, **REVISION** 05/05/2003, **DATE CREATED** 05/09/1990

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
Lanthanum boride, powder and pieces

PRODUCT CODE: L-MSDS0014
PRODUCT NAME: Lanthanum boride, powder and pieces
REFERENCE #: 12008-21-8
MANUFACTURER INFORMATION
COMPANY NAME: Materion Advanced Chemicals Inc.
1316 W. St. Paul Avenue
Milwaukee, WI 53233
EMERGENCY CONTACT: CHEMTREC (800)424-9300
ALTERNATE EMERGENCY CONTACT: Materion Advanced Chemicals Inc. (414)289-9800
CHEMICAL FAMILY: Metal boride
CAS NUMBER: 12008-21-8
SYNONYMS
Lanthanum boride, lanthanum hexaboride

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS
Lanthanum boride, powder and pieces

Hazardous Components (Chemical Name)	CAS# / EC#	Concentration	OSHA PEL	ACGIH TLV	Other Limits
Lanthanum boride	12008-21-8 NA	0.0 -100.0 %	NE	NE	NE

See SECTION IX- ADDITIONAL COMMENTS FOR COSHH Regulations	NA NA	0.0 -100.0 %	

SECTION 3. HAZARDS IDENTIFICATION
Lanthanum boride, powder and pieces

EMERGENCY OVERVIEW

ROUTE(S) OF ENTRY: Inhalation? Yes , Skin? No , Eyes? No , Ingestion? Yes
Other: N

POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

To the best of our knowledge the chemical, physical and toxicological properties of Lanthanum boride have not been thoroughly investigated and recorded.

Lanthanum is considered a rare earth metal. These metals are moderately to highly toxic. The symptoms of toxicity in animals of the rare earth elements inlude writhing, ataxia, labored respiration, walking on the toes with arched back and sedation. Oral or intraperitoneal doses of 5 to 10 g/kg of dysprosium oxide had no pathological effects in mice and daily doses of 2 g/kg were harmless. Rare earth oxides are much less toxic than chlorides or citrates. The rare earth elements exhibit low toxicity by ingestion exposure. However, the intraperitoneal route is highly toxic while the subcutaneous route is poison to moderately toxic. The production of skin and lung granulomas after exposure to them requires extensive protection to prevent such exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Boron compounds are very toxic and therefore considered an industrial poison. Boron is one of a group of elements, such as Pb, Mn, As which affects the central nervous system. Boron poisoning causes depression of the circulation, persistant vomiting and diarrhea followed by profound shock and coma. The temperature becomes subnormal and a scarletina-form rash may cover the entire body. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

INHALATION:
Acute: May cause irritation to the upper respiratory system and mucous membranes.
Chronic: May cause writhing, ataxia, labored respiration, pneumonoconiosis, walking on toes with arched back, sedation, pneumonconiosis, hemoglobinemia and lung granuloma.

INGESTION:
Acute: May cause gastrointestinal disturbances.
Chronic: May cause boron poisoning and act as a blood anticoagulate.

SKIN: Acute: May cause irritation.
Chronic: No chronic health effects recorded.

EYE:
Acute: May cause irritation.

Chronic: No chronic health effects recorded.

TARGET ORGANS: May affect the blood, lungs and central nervous system.

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RECOMMENDED EXPOSURE LIMITS

See "Section II"

LD 50 / LC 50

No toxicity data recorded.

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: May cause a red, dry throat, congestion, sneezing, and coughing.

INGESTION: Boron poisoning may cause: a below normal temperature, poor circulation, vomiting and diarrhea. May affect the coagulation time of the blood.

SKIN: May cause redness, burning and itching.

EYE: May cause redness, burning, itching and watering.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Pre-existing respiratory disorders.

SECTION 4. FIRST AID MEASURES
Lanthanum boride, powder and pieces

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

INGESTION: Give 1-2 glasses of milk or water and induce vomiting; seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if symptoms persist.

EYE: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

SECTION 5. FIRE FIGHTING MEASURES
Lanthanum boride, powder and pieces

FLASH PT: N.A.

EXPLOSIVE LIMITS: LEL: NA UEL: NA

AUTOIGNITION PT:

FIRE FIGHTING INSTRUCTIONS

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

FLAMMABLE PROPERTIES AND HAZARDS

Contact with acids may emit flammable hydrogen gas and volatile boranes.

HAZARDOUS COMBUSTION PRODUCTS

EXTINGUISHING MEDIA

USE: Not applicable. Use suitable extinguishing media for surrounding materials and type of fire.

UNSUITABLE EXTINGUISHING MEDIA

SECTION 6. ACCIDENTAL RELEASE MEASURES
Lanthanum boride, powder and pieces

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear appropriate respiratory and protective equipment specified in section VIII-control measures. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

SECTION 7. HANDLING AND STORAGE
Lanthanum boride, powder and pieces

HAZARD LABEL INFORMATION:

Store in cool, dry area Store in tightly sealed container Wash thoroughly after handling

PRECAUTIONS TO BE TAKEN IN HANDLING

None

PRECAUTIONS TO BE TAKEN IN STORING

None

OTHER PRECAUTIONS

None

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Lanthanum boride, powder and pieces

PROTECTIVE EQUIPMENT SUMMARY - HAZARD LABEL INFORMATION:

NIOSH approved respirator Impervious gloves Safety glasses Clothes to prevent skin contact

RESPIRATORY EQUIPMENT (SPECIFY TYPE)

NIOSH approved respirator

EYE PROTECTION

Safety glasses

PROTECTIVE GLOVES

Rubber gloves

OTHER PROTECTIVE CLOTHING

Protective gear suitable to prevent contamination

ENGINEERING CONTROLS (VENTILATION ETC.)

If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants to a minimum.
Mechanical (Gen): Good general ventilation is recommended.

WORK/HYGIENIC/MAINTENANCE PRACTICES

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
Lanthanum boride, powder and pieces

PHYSICAL STATES:	[ ] Gas [ ] Liquid [X] Solid
MELTING POINT:	2210.00 C
BOILING POINT:	N.A.
FLASH PT:	N.A.
EXPLOSIVE LIMITS:	LEL: NA UEL: NA
SPECIFIC GRAVITY (WATER = 1):	4.76
VAPOR PRESSURE (VS. AIR OR MM HG):	
VAPOR DENSITY (VS. AIR = 1):	
EVAPORATION RATE (VS BUTYL ACETATE=1):	
SOLUBILITY IN WATER:	insoluble

SOLUBILITY NOTES

insoluble in hydrochloric acid

PERCENT VOLATILE:	N.A.
FORMULA:	LaB6
MOLECULAR WEIGHT:	203.77

APPEARANCE AND ODOR

Purple powder and pieces, no odor.

SECTION 10. STABILITY AND REACTIVITY
Lanthanum boride, powder and pieces

STABILITY: Unstable [ ] Stable [X]

CONDITIONS TO AVOID - INSTABILITY

None

INCOMPATIBILITY - MATERIALS TO AVOID

Strong acids and fluorine

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Hydrogen gas, La2O3 and oxides of boron.

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HAZARDOUS POLYMERIZATION: Will occur [ ] Will not occur [X]

CONDITIONS TO AVOID - HAZARDOUS POLYMERIZATION

None

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SECTION 11. TOXICOLOGICAL INFORMATION
Lanthanum boride, powder and pieces

CHRONIC TOXICOLOGICAL EFFECTS

CARCINOGENICITY/OTHER INFORMATION

CARCINOGENICITY: NTP? No IARC Monographs? No OSHA Regulated? No

SECTION 12. ECOLOGICAL INFORMATION
Lanthanum boride, powder and pieces

SECTION 13. DISPOSAL CONSIDERATIONS
Lanthanum boride, powder and pieces

WASTE DISPOSAL METHOD

Dispose of in accordance with local, state and federal regulations.
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SECTION 14. TRANSPORT INFORMATION
Lanthanum boride, powder and pieces

LAND TRANSPORT (EUROPEAN ADR/RID)

ADDITIONAL TRANSPORT INFORMATION

SECTION 15. REGULATORY INFORMATION
Lanthanum boride, powder and pieces

EUROPEAN COMMUNITY HAZARD SYMBOL CODES

EUROPEAN COMMUNITY RISK AND SAFETY PHRASES

SECTION 16. OTHER INFORMATION
Lanthanum boride, powder and pieces

Control of Substances Hazardous to Health Regulations
EH40 Occupational Exposure Limits

Maximum Exposure Limit: NE
Occupational Exposure Standard: NE

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