

LTS RESEARCH LABORATORIES, INC  
MATERIAL SAFETY DATA SHEET  
INDIUM ARSENIDE

GENERAL

MANUFACTUER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.  
COMPANY'S STREET: 37 RAMLAND ROAD  
COMPANY'S CITY: ORANGEBURG  
COMPANY'S STATE: NEW YORK  
COMPANY'S ZIP CODE: 10962  
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COMPANY'S TEL #: 845-494-2940  
DATE MSDS PREPARED: 02/03/05  
DATE MSDS REVISED: 08/08/11

1. PRODUCT IDENTIFICATION

PRODUCT NAME: INDIUM ARSENIDE  
CHEMICAL NATURE: METALLIC ELEMENT  
FORMULA: InAs  
CAS #: 1303-11-3  
MOLECULAR WEIGHT: 189.74

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT 760 mm Hg: N/A  
MELTING POINT: 936°C  
DENSITY @ 20°C: N/A  
VAPOR DENSITY: N/A  
VAPOR PRESSURE (Air=1): N/A  
SOLUBILITY IN H<sub>2</sub>O: INSOLUBLE  
APPEARANCE AND ODOR: GREY METALLIC, SPATTERING TARGET, PIECES, POWDER, ODORLESS

3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: T TOXIC  
N DANGEROUS FOR THE ENVIRONMENT  
R 23/25 TOXIC BY INHALATION AND IF SWALLOWED  
R 50/53 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE  
LONG TEM ADVERSE EFFECTS IN THE AQUATIC  
ENVIRONMENT.  
HAZARDOUS COMPONENTS %  
INDIUM ARSENIDE 0-100%  
OSHA/PEL: 10 ug (As)/m<sup>3</sup>  
ACGIH/TLV 0.2 mg (As)/m<sup>3</sup>  
HMIS RATINGS (0-4):  
HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 1  
HMIS PROTECTIVE EQUIPMENT: J: GOGGLES, GLOVES, APRON, And RESPIRATOR

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A  
AUTOIGNITION TEMPERATURE: N/A  
FLAMMABLE LIMITS:  
UPPER: N/A  
LOWER: N/A

EXTINGUISHING MEDIA:	USE WATER, CARBON DIOXIDE, DRY CHEMICAL EXTINGUISHING AGENTS, DRY SAND OR DRY GROUND DOLOMITE
SPECIAL FIRE FIGHTING PROCEDURES:	WEAR SELF-CONTAINED RESPIRATOR AND FULLY PROTECTIVE IMPERVIOUS SUIT
UNUSUAL FIRE AND EXPLOSION HAZARDS:	WHEN HEATED OR ON CONTACT WITH ACID OR ACID FUMES, IT MAY EMIT HIGHLY TOXIC FUMES OF ARSENIC.

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5. HEALTH HAZARD INFORMATION

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EFFECTS OF OVER EXPOSURE:

ACUTE EFFECTS:

INHALATION:	MAY CAUSE IRRITATION AND DAMAGE TO THE RESPIRATORY SYSTEM.
INGESTION:	MAY CAUSE SYSTEMIC GASTROINTESTINAL AND SKIN EFFECTS AND ACUTE ARSENIC POISONING.
SKIN:	MAY CAUSE SKIN IRRITATION AND SKIN ABNORMALITIES.
EYE:	MAY CAUSE IRRITATION

CHRONIC EFFECTS:

INHALATION:	MAY CAUSE CHRONIC PNEUMONITIS, ARSENIC POISONING, ULCERATION OF THE NASAL SEPTUM, LIVER DAMAGE AND CANCER/DISEASE OF THE BLOOD, KIDNEYS AND NERVOUS SYSTEM.
INGESTION:	MAY CAUSE CHRONIC ARSENIC POISONING, GASTROINTESTINAL DISTURBANCES, LIVER DAMAGE AND CANCER/DISEASE OF THE BLOOD, KIDNEYS AND NERVOUS SYSTEM.
SKIN:	MAY CAUSE IRRITATION, OCCASIONAL ULCERATION, SPOTTY PIGMENTATION, DERMATITIS, SKIN CANCER AND KERATOSES (ESPECIALLY ON SOLES AND PALMS).
EYE:	NO CHRONIC HEALTH EFFECTS RECORDED.

ROUTES OF EXPOSURE:

CARCINOGENITY:

NTP:	YES
IARC:	YES
OSHA:	YES

MEDICAL CONDITIONS

GENERALLY AGGRAVATED BY EXPOSURE:

PRE-EXISTING RESPIRATORY DISEASE

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6. STABILITY

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STABILITY:	STABLE UNDER NORMAL CONDITION
CONDITION TO AVOID:	EXCESSIVE HEAT
INCOMPATIBILITY (MATERIAL TO AVOID):	OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS:	METAL OXIDES FUMES.
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR.

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7. EMERGENCY AND FIRST AID PROCEDURES:

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IMMEDIATELY REMOVE ANY CLOTHING SOILED WITH THE PRODUCT. REMOVE BREATHING APPARATUS ONLY AFTER CONTAMINATED CLOTHING HAS BEEN COMPLETELY REMOVED. IN CASE OF IRREGULAR BREATHING OR RESPIRATORY ARREST PROVIDE ARTIFICIAL RESPIRATOR.

INHALATION:	REMOVE VICTIM TO FRESH AIR, KEEP WARM AND QUIET, GIVE OXYGEN IF BREATHING IS DIFFICULT AND SEEK MEDICAL ATTENTION IMMEDIATELY.
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INGESTION: SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING, FLOOD SKIN WITH LARGE AMOUNTS OF WATER. SEEK MEDICAL ATTENTION IMMEDIATELY.

EYE: IMMEDIATELY FLUSH EYES, INCLUDING UNDER EYELIDS, WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION IMMEDIATELY.

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#### 8. HANDLING AND STORAGE

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HANDLING AND STORAGE STORE IN TIGHTLY SEALED CONTAINERS AWAY FROM OXIDIZING AGENTS IN DRY COOL PLACE. ENSURE GOOD VENTILATION AT THE WORKPLACE. PREVENT FORMATION OF DUST.

OTHER PRECAUTIONS: ADEQUATE VENTILATION

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#### 9. SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEARING FULL PROTECTIVE EQUIPMENT, 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.

RESPIRATORY PROTECTION (SPECIFY TYPE):

IF EXPOSURE MAY EXCEED PERMISSIBLE LIMITS, USE A NIOSH-APPROVED RESPIRATOR FOR DUST HAVING A TLV NOT LESS THAN 0.05 MG/M<sup>3</sup>. ALWAYS OBSERVE RESPIRATOR LIMITATIONS.

VENTILATION:

FOR CUTTING OR GRINDING OPERATIONS, USE LOCAL EXHAUST VENTILATION IF NECESSARY, TO KEEP EXPOSURE LEVELS BELOW PERMISSIBLE LIMITS.

PROTECTIVE GLOVES:

NEOPRENE GLOVES.

EYE PROTECTION:

SAFETY GLASSES. WHEN WORKING WITH POWDER, USE TIGHTLY SEALED GOGGLES AND FULL FACE PROTECTION.

PROTECTIVE CLOTHING:

PROTECTIVE WORK CLOTHING.

WASTE DISPOSAL METHOD: REGULATIONS.

IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL

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#### 10. TOXICITY DATA

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TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

ACUTE TOXICITY:

IRRITANT EFFECT:

SKIN AND MUCOUS MEMBRANE, EYE.

SENSITIZING EFFECT:

NONE

SUBACUTE TO CHRONIC TOXICITY:

ACUTE ARSENIC POISONING FROM INGESTION RESULTS IN MARKED IRRITATION OF THE STOMACH AND INTESTINE WITH NAUSEA, VOMITING AND DIARRHEA. IN SEVERE CASES, THE VOMITUS AND STOOLS ARE BLOODY LEADING TO COLLAPSE AND SHOCK, COMA AND DEATH. CHRONIC POISONING CAUSES LOSS OF APPETITE, CRAMPS NAUSEA, CONSTIPATION OR DIARRHEA. INDIUM MAY CAUSE BONE PAIN, NERVOUS AND GASTROINTESTINAL DISORDER.

CARCINOGENICITY:

IARC:

YES

NTP:

YES

OSHA:

YES

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## 11. TRANSPORTATION DATA

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UN#	1557
HAZARD CLASS:	6.1
PACKING GROUP	III
PROPER SHIPPING NAME:	ARSENIC COMPOUND, SOLID, N.O.S. (INDIUM ARSENIDE)
ADR//RID CLASS:	6.1 (T5) TOXIC SUBSTANCES
IMDG CLASS:	6.1
AIR TRAN. ICAO/IATA CLASS:	6.1

LIMITATION OF USE: FOR USE ONLY BY TECHNICALLY QUALIFIED INDIVIDUALS. THIS PRODUCT CONTAINS ANTIMONY AND IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986 AND 40CFR372.

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## 12. OTHER INFORMATION

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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.

