



LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
ARSENIC SELENIUM ALLOY

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: ARSENIC SELENIUM
CHEMICAL FORMULA: As-Se

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.
COMPANY'S STREET: 37 RAMLAND ROAD
COMPANY'S CITY: OANGEBURG
COMPANY'S STATE: NEW YORK
COMPANY'S ZIP CODE: 10962

EMERGENCY CHEMTREC #: 800-262-8200
COMPANY'S EMERGENCY TEL. #: 800-424-9300 (LOCAL)
703-527-3887 (INTERNATIONAL)
COMPANY'S TEL #: 845-494-2940

RECOMMENDED USE: SCIENTIFIC RESEARCH AND DEVELOPMENT

2. HAZARDS IDENTIFICATION

SIGNAL WORD: DANGER



HAZARD SYMBOLS: TOXIC – FATAL IF INHALED OR SWALLOWED
DANGEROUS FOR THE ENVIRONMENT – MAY CAUSE LONG
TERM DAMAGE TO AQUATIC ENVIRONMENTS

HMIS HEALTH RATINGS (0-4):

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 1

3. COMPOSITION

CHEMICAL FAMILY: SEMIMETAL ALLOY
ADDITIONAL NAMES: N/A

ARSENIC (As):
PERCENTAGE: 0-100 wt%
CAS #: 7440-38-2

SELENIUM (Se):
PERCENTAGE: 0-100 wt%
CAS #: 7782-49-2

ARSENIC SELENIDE (As₂Se₃):
PERCENTAGE: 0-100 wt%
CAS #: 1303-36-2

4. FIRST AID PROCEDURES

IMPORTANT SYMPTOMS: NONE
SPECIAL TREATMENT: NONE
GENERAL TREATMENT: SEEK IMMEDIATE MEDICAL ATTENTION IF EXPOSED.
INHALATION: REMOVE VICTIM TO FRESH AIR GIVE OXYGEN IF
BREATHING IS DIFFICULT.

INGESTION: GIVE 1-2 GLASSES OF MILK OR WATER AND INDUCE VOMITING. NEVER INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SKIN: WASH AFFECTED AREA WITH MILD SOAP AND WATER. REMOVE CONTAMINATED CLOTHING.

EYES: FLUSH EYES WITH WATER, LIFTING UPPER AND LOWER EYELIDS, FOR 20 MINUTES.

5. FIRE AND EXPLOSION HAZARDS DATA

FLAMMABILITY: NON-FLAMMABLE

FLASH POINT: N/A

AUTOIGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: USE SUITABLE EXTINGUISHING AGENT FOR SURROUNDING MATERIAL AND TYPE OF FIRE.

SPEC. FIRE FIGHTING PROCEDURE: USE FULL-FACE, SELF-CONTAINED BREATHING APPARATUS WITH FULL PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

6. ACCIDENTAL RELEASE MEASURES

IF MATERIAL IS RELEASED/ SPILLED: WEAR APPROPRIATE RESPIRATORY AND PROTECTIVE EQUIPMENT SPECIFIED IN SPECIAL PROTECTION INFORMATION. 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 DISPOSAL. TAKE CARE NOT TO RAISE DUST.

ENVIRONMENTAL PRECAUTIONS: ISOLATE RUNOFF TO PREVENT ENVIRONMENTAL POLLUTION.

7. HANDLING AND STORAGE

HANDLING CONDITIONS: WASH THOROUGHLY AFTER HANDLING.

HMS PROTECTIVE EQUIPMENT: GLASSES, GLOVES, APRON, DUST RESPIRATOR

STORAGE CONDITIONS: STORE IN A COOL DRY PLACE IN A TIGHTLY SEALED CONTAINER.

WORK/HYGIENIC MAINTENANCE: 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.

VENTILATION: PROVIDE SUFFICIENT VENTILATION TO MAINTAIN CONCENTRATION AT OR BELOW TLV.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL: 0.01 mg/m³ AS ARSENIC
0.2 mg/m³ AS SELENIUM

ACGIH TLV: 0.01 mg/m³ AS ARSENIC
0.2 mg/m³ AS SELENIUM

SPECIAL EQUIPMENT: NONE

RESPIRATORY PROTECTION: NIOSH APPROVED DUST/MIST RESPIRATOR

PROTECTIVE GLOVES: RUBBER GLOVES

EYE PROTECTION: SAFETY GLASSES

BODY PROTECTION: PROTECTIVE WORK CLOTHING. WEAR CLOSE-TOED SHOES AND LONG SLEEVES/PANTS.

OTHER: N/A

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

COLOR	GREY OR BROWN
FORM:	POWDER, PIECES, PELLETS, GRANULES, SPUTTERING TARGET
ODOR:	ODORLESS
WATER SOLUBILITY:	INSOLUBLE
BOILING POINT:	N/A
MELTING POINT:	260 °C AS ARSENIC
DENSITY:	N/A
MOLECULAR WEIGHT:	N/A

10. REACTIVITY

STABILITY:	STABLE
INCOMPATIBILITY:	ACIDS, OXIDIZING AGENTS
HAZ. DECOMPOSITION PRODUCTS:	SELENIUM AND ARSENIC OXIDES
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

EYE:	HARMFUL
SKIN:	HARMFUL
INGESTION:	FATAL IF INGESTED
INHALATION:	FATAL IF INHALED

ACUTE ARSENIC POISONING FROM INGESTION RESULTS IN MARKED IRRITATION OF THE STOMACH AND INTESTINES WITH NAUSEA, VOMITING AND DIARRHEA. IN SEVERE CASES, THE VOMITUS AND STOOLS ARE BLOODY AND THE PATIENT GOES INTO COLLAPSE AND SHOCK WITH WEAK, RAPID PULSE, COLD SWEATS, COMA AND DEATH. CHRONIC ARSENIC POISONING MAY CAUSE DISTURBANCES OF THE DIGESTIVE SYSTEM SUCH AS LOSS OF APPETITE, CRAMPS, NAUSEA, CONSTIPATION OR DIARRHEA. SELENIUM MAY CAUSE AMYOTROPHIC LATERAL SCLEROSIS, BRONCHIAL IRRITATION, GASTROINTESTINAL DISTRESS, VASOPHARYNGEAL IRRITATION, GARLIC ODOR ON BREATH AND SWEAT, METALLIC TASTE, PALLOR, IRRITABILITY, EXCESSIVE FATIGUE, LOSS OF FINGERNAILS AND HAIR, PULMONARY EDEMA, ANEMIA AND WEIGHT LOSS

ROUTES OF ENTRY:	INHALATION, SKIN, EYES, AND INGESTION.
TARGET ORGANS:	N/A
SIGNS & SYMPTOMS OF EXPOSURE:	N/A
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	N/A
LD50:	N/A
CARCINOGEN:	
NTP:	YES
IARC MONOGRAPHS:	YES
OSHA REGULATED:	YES

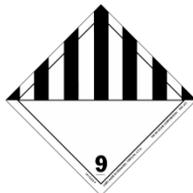
12. ECOLOGICAL INFORMATION

ECOLOGICAL EFFECTS:	VERY DANGEROUS TO AQUATIC ORGANISMS DANGER TO DRINKING WATER EVEN IN SMALL QUANTITIES
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13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

14. TRANSPORTATION DATA



HAZARD CLASS:	9 MISCELLANEOUS DANGEROUS SUBSTANCES
PACKING GROUP:	III
UN NUMBER:	UN3077
UN PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (ARSENIC SELENIUM)
SPECIAL MARKING:	ENVIRONMENTAL HAZARDS

15. REGULATORY INFORMATION

SEC.302 (EHS):	NO
SEC.313 (SARA):	YES

16. 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.

DATE MSDS PREPARED:	06/02/14
DATE LAST REVISED:	09/05/14