

MATERIAL SAFETY DATA SHEET

This form may be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

IDENTITY (As Used on Label and List): **Indium selenide, powder and pieces**

Product Code: **I-MSDS0034** Reference #: **12056-07-4**

SECTION I - PRODUCT IDENTIFICATION

Indium selenide, powder and pieces

MANUFACTURER NAME AND ADDRESS:

ProChem, Inc.
826 Roosevelt Rd.
Rockford IL 61109

TELEPHONE NUMBERS:

CHEMTREC (800)424-9300
ProChem, Inc. (800) 795-8788
Local Poison/Emrgncy () - 911

DATES:

Date Created: 02/15/1991
Revision: 01/09/1995
Printed: 01/28/2004

SYNONYMS

Indium selenide; indium sesquiselenide

CHEMICAL FAMILY: Indium selenide

DOT HAZARD LABEL: No data.

FORMULA: In₂Se₃

MOLECULAR WEIGHT: 466.52

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Indium selenide, powder and pieces

HAZARDOUS COMPONENTS (CHEMICAL NAME)

<u>NAME:</u>	Indium selenide	<u>PERCENTAGE:</u>	0.0 - 100.0 %
<u>CAS #:</u>	12056-07-4	<u>ACGIH TLV:</u>	0.1 mg/m ³
<u>OSHA PEL:</u>	NE	<u>SEC.304 RO:</u>	Yes 1 LB**
<u>OTHER LIMITS:</u>	NE		
<u>SEC.302 (EHS):</u>	No		
<u>SEC.313:</u>	Yes		

<u>NAME:</u>	Selenium Compounds	<u>PERCENTAGE:</u>	0.0 - 100.0 %
<u>CAS #:</u>	NA	<u>ACGIH TLV:</u>	0.2 mg/m ³
<u>OSHA PEL:</u>	0.2 mg/m ³	<u>SEC.304 RO:</u>	Yes 1 LB
<u>OTHER LIMITS:</u>	NE		
<u>SEC.302 (EHS):</u>	No		
<u>SEC.313:</u>	Yes		

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Indium selenide, powder and pieces

PHYSICAL STATES: Gas , Liquid , Solid
BOILING POINT: N.A.
MELTING POINT: 880.00 C (1616.0 F) to 900.00 C (1652.0 F)
SPECIFIC GRAVITY (WATER = 1): 5.67 gm/cc at 25.0 C (77.0 F)
DENSITY: No data.
VAPOR PRESSURE (VS. AIR OR MM HG): NE
VAPOR DENSITY (VS. AIR = 1): NA
EVAPORATION RATE (VS BUTYL ACETATE=1): NA
SOLUBILITY IN WATER: NE
PERCENT VOLATILE: N.A.
PH: No data.
APPEARANCE AND ODOR

Black powder and pieces, no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA
Indium selenide, powder and pieces

FLASH PT: N.A. **METHOD USED:** NON-FLAMMABLE
EXPLOSIVE LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIA

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

SPECIAL FIRE FIGHTING PROCEDURES

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.

UNUSUAL FIRE AND EXPLOSION HAZARDS

When heated to decomposition, indium selenide may emit toxic fumes of selenium.

SECTION V - REACTIVITY DATA
Indium selenide, powder and pieces

STABILITY: Unstable Stable
CONDITIONS TO AVOID - INSTABILITY

None

INCOMPATIBILITY - MATERIALS TO AVOID

None recorded

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Fumes of selenium

HAZARDOUS POLYMERIZATION: Will occur Will not occur
CONDITIONS TO AVOID - HAZARDOUS POLYMERIZATION

None

SECTION VI - HEALTH HAZARD DATA
Indium selenide, powder and pieces

ROUTE(S) OF ENTRY: Inhalation? Yes , Skin? Yes , Eyes? Yes , Ingestion? Yes , Other: N
HEALTH HAZARDS (ACUTE AND CHRONIC)

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

Selenium compounds are poison by inhalation and intravenous routes. Some selenium compounds are experimental carcinogens. Long-term exposure may be a cause of amyotrophic lateral sclerosis in humans, just as it may cause "blind staggers" in cattle. Elemental selenium has low acute systemic toxicity, but dust or fumes can cause serious irritation of the respiratory tract. Inorganic selenium compounds can cause dermatitis. Garlic odor of breath is a common symptom. Pallor, nervousness, depression, digestive disturbances and death have been reported in cases if chronic exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

INHALATION:

Acute: DANGER-POISON. May cause acute selenium poisoning and irritation to the respiratory tract.

Chronic: May cause pneumonitis and chronic selenium poisoning. Continued intoxication may cause loss of nails and hair, hemolytic anemia, kidney, liver and spleen damage.

INGESTION:

Acute: DANGER-POISON. May cause irritation to the gastrointestinal tract.

Chronic: May cause chronic selenium toxicity.

SKIN:

Acute: May cause irritation.

Chronic: May cause dermatitis.

EYE:

Acute: May cause irritation to the conjunctiva.

Chronic: No chronic health effects recorded.

TARGET ORGANS: May affect the respiratory system, skin, liver, blood and kidneys.

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

CARCINOGENICITY/OTHER INFORMATION

No data available.

RECOMMENDED EXPOSURE LIMITS: See "Section II" **LD 50/LC 50:** No toxicity data recorded

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: Acute selenium poisoning may cause: nervousness, fever, vomiting, somnolence, drop in blood pressure, labored breathing and toxic action on the nervous system may lead to respiratory failure. Chronic selenium poisoning may cause: depression, marked pallor, coated tongue, gastrointestinal disorders, garlic odor of the breath.

INGESTION: Chronic selenium poisoning may cause: alkali disease, loss of vitality, lameness, atrophy, cirrhosis of the liver, degeneration and necrosis of the myocardium.

SKIN: May cause redness, itching, inflammation, burning sensation and swelling.

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

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Pre-existing respiratory and gastric disorders

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.

INGESTION: Give 1-2 glasses of milk or water and induce vomiting; seek medical attention. 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.

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

NOTE TO PHYSICIAN

No data available.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE **Indium selenide, 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.

WASTE DISPOSAL METHOD

Dispose of in accordance with local, state and federal regulations.

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

No data available.

OTHER PRECAUTIONS

None

SECTION VIII- CONTROL MEASURES **Indium selenide, 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 dust-mist-vapor cartridge respirator

VENTILATION:

LOCAL EXHAUST: To maintain concentration at or below the PEL, TLV **SPECIAL:** Handle in a controlled enclosed environment

MECHANICAL (GENERAL): Not recommended **OTHER:** None

EYE PROTECTION

Safety glasses

PROTECTIVE GLOVES

Rubber gloves

OTHER PROTECTIVE CLOTHING

Protective gear suitable to prevent contamination

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 IX - ADDITIONAL COMMENTS

Indium selenide, powder and pieces

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, **PROCHEM MAKES NO WARRANTY, EITHER EXPRESSED NOR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN, AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON.** Users should satisfy themselves that they have all current data relevant to their particular use.

Abbreviations used: NA=Not Applicable NE: Not Established
