

Material Safety Data Sheet: Indium (III) Phosphide/Zinc Sulfide Core/Shell Quantum Dots

Section 1: Chemical Product and Company Identification

Product Name: Indium Phosphide/Zinc Sulfide core-shell quantum dots
Created Date: July 23, 2015
Manufacturer/Supplier by: Mesolight Inc
Address: 4607 W 61st Street Little Rock, Arkansas 72209 USA
Telephone: +1 501-562-2070
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Section 2: Composition, Information or Ingredients

NGREGIENT	CAS#
Indium phosphide	22398-80-7
Zinc sulfide	1314-98-3
1-Dodecanethiol	112-55-0

Section 3: Hazard Identification

Toxicity Data: The health hazards of this product have not been fully tested; it should be used with caution.

Routes of Entry (Under Normal Conditions of Use):

Inhalation – Yes Skin – Yes Ingestion – Yes

Medical Conditions Generally Aggravated by Exposure: Respiratory disorders.

Health Hazards (Acute and Chronic): Not known applicable Information

Section 4: First Aid Measures

Skin Contact: Wash the skin thoroughly with soap and water and seek medical advice.

Eye contact: If eye contact occurs, rinse eye thoroughly and seek medical advice

Inhalation: If inhaled, supply fresh air or respirator and seek medical advice.

Ingestion: If swallowed, seek medical attention immediately

Section 5: Fire-Fighting Measures

Flammable Limits: Nonflammable, Hazard on contact with acid

Extinguishing Media: Do not use water, use dry chemical, dry ice, CO₂

Special Fire Fighting Procedures: Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes

Unusual Fire and Explosion Hazards: Can react with moisture or acids to liberate phosphine (PH₃), H₂S; which are fire and explosion hazard. When heated to decomposition, it may emit toxic fumes of PO_x, SO₂.

Section 6: Accidental Release Measures

Personal Precautions: Always use proper protective equipment.

- Environmental Precautions:** Do not allow material to reach drains or ground water.
- Cleanup of small spills:** Vacuum up spill using a high efficiency unit and place in a container for proper disposal.
- Disposal:** Collect and dispose of all waste in an appropriate container.

Section 7: Handling and Storage

- Handling:** Follow safe laboratory practices. The product should only be used by or closely supervised by an individual trained to handle potentially hazardous materials.
- Storage:** Store in a dark, cool (4-25 °C) place in a tightly sealed container. Store in same type of container (glass/plastic) as shipped. Do not freeze.

Section 8: Exposure Controls and Personal Protection

- Engineering Controls:** Use fume hood with proper ventilation.
- Personal Protection:** Gloves, lab coat, and goggles.

Section 9: Physical and Chemical Properties

- Form:** solid
- Color:** yellow to dark red
- pH:** Not disclosed
- Specific Gravity:** Not disclosed
- Boiling point:** n/a.
- Melting point:** n.a.
- Freezing point:** n.a
- Vapor Pressure:** 0 mmHg
- Odor:** Not disclosed
- Solubility:** Soluble in organic solvents, chloroform, toluene, tetrahydrofuran

Section 10: Stability and Reactivity

- Stability:** The product is stable
- Incompatibility (Conditions to Avoid):** Strong acids, oxidants
- Thermal decomposition:** Not determined
- Materials to avoid:** Not determined
- Hazardous Polymerization:** Will not occur
- Conditions to Avoid:** Heat, flame and incompatible materials
- Hazardous Decomposition Products:** In, InOx, P, PO_x, PH₃, ZnO, S, H₂S, SO₂

Section 11: Toxicological Information

- RTECS Number:** Not disclosed
- Toxicity:** Not disclosed
- Health Hazards:** Refer to section 4
- Carcinogenicity:** No information is available

Section 12: Ecological Information

No data available. See section 6

Section 13: Disposal considerations

Dispose of in accordance with local, state, or national regulations.

Section 14: Transport information

U.S. DOT Classification: Not a hazardous material for land or air transport.

Identification Number: Not applicable

Packing Group: Not applicable

Proper Shipping Name: Not applicable

Section 15: Regulations

No data available for TSCA, EEC EINECS number, EEC risk statements, or other regulations.

Section 16: Other information

Disclaimer: For R&D only. Not intended for food, drug, household, agricultural or cosmetic use. The above information is believed to be correct. Mesolight Inc shall not be held any liable for any damage resulting from handling or contact with the above product.