# SAFETY DATA SHEET

**Indium Oxide Powder**

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Indium Oxide Powder  
**GENERAL USE:** Physical vapor deposition of thin films  
**GENERIC NAME:** Indium(III) oxide, Diindium trioxide

**MANUFACTURER**  
Kurt J Lesker Company  
United States  
1925 Route 51  
Jefferson Hills, PA 15025  
**Customer Service:** 412-387-9200  
**E-Mail:** msds@lesker.com  
Kurt J Lesker Company LTD  
United Kingdom  
15-16 Burgess Road  
Hastings, East Sussex, TN35 4NR  
England  
**Customer Service:** +44 (0) 1424 458100

**24 HR. EMERGENCY TELEPHONE NUMBERS**  
24-Hour Emergency Response provided by  
3E Global Incident Response Hotline  
When calling, refer to Kurt J Lesker Company  
Global Response Access Code: 333594  
North America [USA, Canada, Mexico]: 1-866-519-4752  
Mainland China: (+86) 4001 2001 74  
Europe: {int'l call prefix}-1-760-476-3961  
Asia Pacific: {int'l call prefix}-1-760-476-3960  
Middle East & Africa: {int'l call prefix}-1-760-476-3959

## 2. HAZARDS IDENTIFICATION

### GHS CLASSIFICATIONS

**Health:**  
This substance or mixture is not hazardous and is not classified under GHS.

### EMERGENCY OVERVIEW

**PHYSICAL APPEARANCE:** Yellow solid  
**IMMEDIATE CONCERNS:** May cause irritation of skin, eyes, and respiratory tract.

### POTENTIAL HEALTH EFFECTS

**EYES:** Contact may cause eye irritation.  
**SKIN:** May cause skin irritation.  
**INGESTION:** May be harmful if swallowed.  
**INHALATION:** May be harmful if inhaled. May cause respiratory irritation.

### REPRODUCTIVE TOXICITY

**REPRODUCTIVE EFFECTS:** Not Available  
**TERATOGENIC EFFECTS:** Not Available  
**CARCINOGENICITY:** Not listed as a human carcinogen  
**MUTAGENICITY:** Not Available  
**ROUTES OF ENTRY:** Inhalation, ingestion, eye contact, or skin contact.
IRRITANCY: May cause irritation of skin, eyes, and respiratory tract.

PHYSICAL HAZARDS: This substance is not considered hazardous in the form supplied.

COMMENTS: The physical and toxicological properties of this material have not been thoroughly investigated.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
</tr>
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<tbody>
<tr>
<td>Indium Oxide</td>
<td>100</td>
<td>1312-43-2</td>
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</table>

4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

**SKIN:** Wash with soap and water. Get medical attention if irritation develops or persists.

**INGESTION:** Rinse mouth. Get medical advice/attention. Low ingestion hazard in normal use.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

**SIGNS AND SYMPTOMS OF OVEREXPOSURE**

**CHRONIC EFFECTS:** Not Available

5. FIRE FIGHTING MEASURES

**FLAMMABLE CLASS:** Not flammable.

**EXTINGUISHING MEDIA:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

**EXPLOSION HAZARDS:** Dusts at sufficient concentrations can form explosive mixtures with air.

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Clean up spills immediately, observing precautions in Protective Equipment section.

**LARGE SPILL:** Collect spilled material in appropriate container. Spill may be reportable. Consult section 15 for Reportable Quantities.

**GENERAL PROCEDURES:** Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate all ignition sources if safe to do so. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use. Avoid release to the environment.

7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** To avoid risks to human health and the environment, comply with the instructions for use.

**HANDLING:** Keep away from heat and flame. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Do not breath (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

**STORAGE:** Keep container closed when not in use. Store in a cool dry place.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.

RESPIRATORY: If ventilation is inadequate and this material is handled at elevated temperatures or dusts/fumes/mists are generated a NIOSH/MSHA approved air purifying respirator with a manufacturers approved cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

WORK HYGIENIC PRACTICES: Practice good chemical hygiene during and after use.

COMMENTS:

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<thead>
<tr>
<th>Component</th>
<th>Location, Type</th>
<th>Value (mg/m3)</th>
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<tr>
<td></td>
<td>OSHA OEL TWA</td>
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<tr>
<td></td>
<td>NIOSH REL TWA</td>
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<td>UK WEL STEL</td>
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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Powder

ODOR: None

COLOR: Yellow

PERCENT VOLATILE: NA = Not Applicable

FLASH POINT AND METHOD: NA = Not Applicable

FLAMMABLE LIMITS: NA = Not Applicable

AUTOIGNITION TEMPERATURE: NA = Not Applicable

BOILING POINT: Not Available

MELTING POINT: 1910°C

SOLUBILITY IN WATER: Insoluble

DENSITY: 7.179 at 25°C

MOLECULAR WEIGHT: 277.64
10. STABILITY AND REACTIVITY

STABLE: Yes
HAZARDOUS POLYMERIZATION: No
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic metal fumes
INCOMPATIBLE MATERIALS: Strong acids, Strong bases, Oxidizing materials.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD_{50}: Not Available
ORAL LD_{50}: Not Available
INHALATION LC_{50}: Not Available

CARCINOGENICITY

IARC: Not listed
NTP: Not listed
OSHA: Not listed

REPRODUCTIVE EFFECTS: Not Available
TERATOGENIC EFFECTS: Not Available
MUTAGENICITY: Not Available

12. ECOLOGICAL INFORMATION

BIOACCUMULATION/ACCUMULATION: Not Available
AQUATIC TOXICITY (ACUTE): Not Available
CHEMICAL FATE INFORMATION: Not Available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of according to applicable federal, state, provincial, and local regulations.

PRODUCT DISPOSAL: Contact a licensed waste disposal company.

EMPTY CONTAINER: Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

ROAD AND RAIL (ADR/RID)

PROPER SHIPPING NAME: Not Regulated

AIR (ICAO/IATA)

SHIPPING NAME: Not Regulated
VESSEL (IMO/IMDG)

SHIPPING NAME: Not Regulated

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not Regulated

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

FIRE: No  PRESSURE GENERATING: No  REACTIVITY: No  ACUTE: No  CHRONIC: No

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All components of this product are included in inventory, exempt, or notified

REGULATIONS

STATE REGULATIONS: Not listed

CALIFORNIA PROPOSITION 65: This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Not Regulated

DOMESTIC SUBSTANCE LIST (INVENTORY): All components of this product are included in inventory, exempt, or notified

GENERAL COMMENTS: All components of this product are included in inventory, exempt, or notified: USA TSCA, Philippines PICCS, Korean KECL, European EINECS, Canadian DSL

16. OTHER INFORMATION

APPROVED BY: EHS DEPT

PREPARED BY: E Bolton

INFORMATION CONTACT: msds@lesker.com

HMIS RATING

<table>
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<tr>
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<th>FLAMMABILITY</th>
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<th>PERSONAL PROTECTION</th>
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NFPA CODES

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GENERAL STATEMENTS: The physical and toxicological properties of this material have not been thoroughly investigated.

MANUFACTURER DISCLAIMER:

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