



Material Data Safety Sheet

Products: Induction Grow Lamps Designated as: Pro-100-PAR, Pro-200-PAR, Pro-420-PAR

SECTION ONE MANUFACTURER

Manufacturers Name: Inda-Gro Lighting
Manufacturers Address: 6176 Federal Blvd.
San Diego, CA 92114 USA

Telephone No: (01) 619.266.4004
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SECTION TWO HAZARDOUS INGREDIENTS

There are no known health hazards from exposure to lamps that are intact. If the lamp is broken the following materials may be released:

Induction Lamp Assembly	CAS No	OSHA PEL	ACGIH	PERCENTAGE
Phosphor Powder Composite (nuisance dust)	none	15 mg/m ³	10 mg/m ³	<.7%
Yttrium Oxide	1314-36-6	1 mg/m ³	.6mg/m ³	<.2%
Zinc	7440-66-6	none	None	~20%
Bismuth	7440-69-9	none	None	<.3%
Barium Aluminate (insoluble)	none	none	None	<.15%
Mercury	7439-97-6	1.0 g/m ²	.025 mg/m ²	<20 ppm
Copper	7440-50-8	1.1 mg/m ²	1.1mg/m ³	~20%
Indium	7440-74-6	.1 g/m ³	.1 g/m ³	<.3%
Terbium	7440-27-9	.6mg/m ³	.6 mg/m ³	<.2%
Magnesium Aluminate (insoluble)	none	none	none	<.2%
Rare Earth Aluminate (insoluble)	none	none	none	<.2%
Manganese	7439-96-5	.9 mg/m ³	.9 mg/m ³	<.3%
Europium	7440-53-1	.6mg/m ³	.6 mg/m ³	<.2%
Inert ingredients (borosilicate glass, plastic)	none	none	none	~57%

SECTION THREE PHYSICAL CHEMICAL CHARACTERISTICS

Electronics	EPA CASRN	OSHA PEL	ACGIH	PERCENTAGE
Lead	7439-92-1	50 µg/m ³	150µg/m ³	~1%
Steel (Iron)	7439-89-6	10 mg/m ³	5 mg/m ³	~97%
Tin	7440-31-5	none	2 mg/m ³	<1%

SECTION FOUR FIRE AND EXPLOSION DATA

Not Applicable: The lamp and electronics and not combustible.

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SECTION FIVE REACTIVITY DATA

Stability:	The lamp and components are stable.
Incompatibility:	The borosilicate glass envelope is comprised of 80% silica 13% boric oxide, 4% sodium oxide and 2-3% aluminum oxide and will react with Hydrofluoric acid.
Polymerization:	Will not occur

SECTION SIX HEALTH EFFECTS

Not applicable to the intact lamp. The luminescent material is contained within the glass vessel. Breakage of the vessel may result in some exposure to the phosphor powder dust and small amounts of bismuth, indium and mercury. No adverse effects are expected from occasional exposure to broken lamps but as a matter of good practice prolonged or frequent exposure should be avoided through the use of adequate ventilation during disposal of large number of lamps. The major hazard from broken lamps is the possibility of sustaining glass cuts.

With respect to infrared and ultraviolet radiation, it can be stated that the output levels of the induction lamp system are below the thresholds limits as recommended by ACGIH in case of unintentional exposure. With regards to unintentional exposure to a bare induction lamp as borosilicate glass filters all UVC and the majority of UVB and 1000 lux exposure for up to 24 hours will have no ill effect on the skin.

With respect to the electromagnetic radiation of the induction lamp system it can be stated that the system falls well within the limits specified by the American National Standards Institute and the more sever guidelines of the International Radiation Protection Association.

With respect to the Electronic Ballast it generates a 250 KHz output frequency that complies with FCC rules prohibiting interference with other wireless electronics such as pacemakers under normal operations.

EMERGENCY AND FIRST AID PROCEDURES

Glass Cuts:	Perform normal first aid procedures. Seek medical attention if required.
Inhalation:	If discomfort, irritation or symptoms of pulmonary involvement develop, remove from exposure and seek medical attention.
Ingestion:	Seek medical attention.
Contact Eye:	Wash eyes, including eyelids, immediately with copious amounts of water for 15 minutes. Seek medical attention.
Contact Skin:	Thoroughly wash affected area with mild soap or detergent and water. Prevent further contact and seek medical attention of irritation continues.

SECTION SEVEN PROCEDURES AND PRECAUTIONS FOR SAFE HANDLING AND DISPOSAL

Under the Toxicity Characteristic Leaching Procedure (TCLP) advanced by the United States Environmental Protection Agency (EPA) tests of used or spent High Intensity Discharge Lamps (HID) and fluorescent lamps indicates that some of these lamps are classified as hazardous waste materials. Induction lamps when compared to traditional electrode type fluorescent lamps are not classified as hazardous because of the lamps low mercury to lamp weight ratio and the long 100,000 hour life spans. Inda-Gro recommends that all lamps be properly recycled. To learn more visit:

<http://www.lamprecycle.org>



The induction lamp glass tube is electrodeless with the glass being fused hermetically and hermetically sealed. The inside of the glass tube is operating at a slight pressure vacuum which results in the glass imploding when hairline fractures occur, followed by a possible spray of glass particles. We advise those handling the lamps or who may come in contact with the lamps to wear protective eyewear.

In the event of a lamp being broken, ventilate the area where the breakage occurred. Clean up broken glass with a mercury vacuum or other suitable means that dust and mercury vapor generation. Take usual precautions for collection of broken glass. Place material in closed containers to avoid generating dust and mercury vapor.

SECTION EIGHT CONTROL MEASURES

Proper care should be taken when shipping these lamps to protect the lamp from breakage when in transit. Save all original packaging materials should shipping be necessary. There are no restrictions on shipping these lamps by any mode of transportation.

Inda-Gro reserves the right to modify and update the materials listed within this document under future updated revisions Inda-Gro has utilized their best efforts to provide current, complete and accurate information regarding their products and all components listed herein/ We make no representations regarding the accuracy or completeness of the information and assume no liability for any loss damage or injury of any kind which may result from, or arise out of, the use of, or reliance on the information presented herein by any entity or person. Each user who comes in contact with these products should be given a copy of this MSDS to familiarize themselves with all aspects regarding the safe handling and use of these products.

For Poison Emergencies in the USA call 1-800-222-1222