

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**
**Product identifier**
**Product Name** Litharge

**Other means of identification**
**Synonyms** 84Y Litharge, 100Y Litharge, Electronic Grade 100Y, 100Y VRLA Grade Litharge, 150Y Litharge, 400Y Litharge, 500Y Litharge, HT100, Lead Monoxide B-Grade, Lead Monoxide S-Grade, TG-100. Includes UHP and oil treated products.

**Recommended use of the chemical and restrictions on use**
**Recommended Use** Not available.

**Uses advised against** Not available.

**Details of the supplier of the safety data sheet**
**Manufacturer Address**

 Hammond Lead Products  
 Hammond Plant  
 Hammond Group, Inc.  
 2308 165th Street  
 Hammond, IN 46323

 Hammond Lead Products  
 Pottstown Plant  
 Hammond Group, Inc.  
 10 South Grosstown Road  
 Pottstown, PA 19464

**Emergency telephone number**
**Company Phone Number** 219-845-0031

**24 Hour Emergency Phone Number** Chemtrec  
 1-800-424-9300

**2. HAZARDS IDENTIFICATION**
**Classification**
**OSHA Regulatory Status**

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Carcinogenicity	Category 1B
Reproductive toxicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

**Label elements****Emergency Overview****Danger****Hazard statements**

May cause cancer

May damage fertility or the unborn child

May cause harm to breast-fed children

Causes damage to central nervous system, blood formation and kidneys and cardiovascular system through prolonged or repeated exposure

**Appearance** Powder or granules**Physical state** Solid**Odor** Odorless**Precautionary Statements - Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other Information**

• Very toxic to aquatic life with long lasting effects

• Very toxic to aquatic life

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Synonyms**

84Y Litharge, 100Y Litharge, Electronic Grade 100Y, 100Y VRLA Grade Litharge, 150Y Litharge, 400Y Litharge, 500Y Litharge, HT100, Lead Monoxide B-Grade, Lead Monoxide S-Grade, TG-100. Includes UHP and oil treated products.

Chemical Name	CAS No.	Weight-%
Lead Monoxide	1317-36-8	90-100

#### 4. FIRST AID MEASURES

##### First aid measures

<b>Eye contact</b>	In case of eye contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists. Do not rub affected area.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If conscious, have victim clear nasal passages.
<b>Ingestion</b>	Seek immediate medical attention. Rinse mouth. Drink plenty of water. Induce vomiting, but only if victim is fully conscious.

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Typical manifestations of lead poisoning include weakness, irritability, asthenia, nausea, abdominal pain with constipation and anemia.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Unknown.

##### Specific hazards arising from the chemical

May give off toxic fumes in a fire, including lead fumes.

##### Explosion data

**Sensitivity to Mechanical Impact** None known.

**Sensitivity to Static Discharge** None known.

##### Protective equipment and precautions for firefighters

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

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Avoid contact with skin, eyes and inhalation of dusts. Avoid creating dust. Use personal protection recommended in Section 8.
<b>For emergency responders</b>	Wear respiratory protection. Wear proper personal protective equipment (gloves and goggles). Wear appropriate outer garment to protect clothing.

##### Environmental precautions

<b>Environmental precautions</b>	Prevent entry into waterways, sewers, surface drainage systems and poorly ventilated areas.
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**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Avoid creating dust. Safely stop source of spill. Restrict non-essential personnel from area. All personnel involved in spill cleanup should avoid skin and eye contact by wearing appropriate personal protection equipment. Do not breathe dust.
<b>Methods for cleaning up</b>	Avoid dust formation. Clean up dusts with high efficiency particulate air (HEPA) filtered vacuum equipment or by wet cleaning.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on safe handling** Use personal protection recommended in Section 8. Avoid generation of dust. Be familiar with the requirements set forth in the OSHA Lead Standard, 29 CFR 1910.1025.

**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Incompatible materials</b>	Strong oxidizing agents.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lead Monoxide 1317-36-8	TWA: 0.05 mg/m <sup>3</sup> Pb	TWA: 0.05 mg/m <sup>3</sup> Pb	IDLH: 100 mg/m <sup>3</sup> Pb TWA: 0.050 mg/m <sup>3</sup> Pb

**Appropriate engineering controls**

**Engineering Controls** Use contained process enclosures, local exhaust ventilation or other engineering controls to maintain aerosols below the exposure limit. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Use safety glasses with side shields or chemical goggles.
<b>Skin and body protection</b>	Protective clothing is required if exposure exceeds the PEL or TLV or where possibility of skin or eye irritation exists. Full body cotton or disposable coveralls and disposable gloves should be worn during use and handling. Clothing should be left at work site and be properly disposed of or laundered after use. The wash water should be disposed of in accordance with local, state and federal regulations. Personal clothing should be protected from contamination.
<b>Respiratory protection</b>	If engineering controls cannot maintain airborne concentrations below exposure limits, use appropriate, approved respiratory protection (a 42 CFR 84 Class N, R, or P-100 particulate filter cartridge). When exposure levels are unknown, a self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask should be worn. Utilization of respiratory equipment should be in accordance with 29 CFR 1910.1025 and 29 CFR 1910.134.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear disposable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Powder or granules	<b>Odor threshold</b>	Not available.
<b>Color</b>	Yellow-orange		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not available.	
<b>Melting point/freezing point</b>	>600 °C	
<b>Boiling point / boiling range</b>	>600 °C	
<b>Flash point</b>	Not applicable (high-melting point solid)	
<b>Evaporation rate</b>	Not applicable (high-melting point solid)	
<b>Flammability (solid, gas)</b>	Not combustible	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	Not combustible	
<b>Lower flammability limit:</b>	Not combustible	
<b>Vapor pressure</b>	Negligible	
<b>Vapor density</b>	Not applicable (high-melting point solid)	
<b>Specific Gravity</b>	9.96	
<b>Water solubility</b>	70.2 mg/L at 20°C	
<b>Solubility in other solvents</b>	Lead compounds, soluble in 0,07 M hydrochloric acid	
<b>Partition coefficient</b>	Not applicable (inorganic)	
<b>Autoignition temperature</b>	Not combustible	
<b>Decomposition temperature</b>	>600°C	
<b>Kinematic viscosity</b>	Not applicable (solid)	
<b>Dynamic viscosity</b>	Not applicable (solid)	
<b>Explosive properties</b>	Not considered to be explosive	
<b>Oxidizing properties</b>	Not considered to be oxidizing	

### Other Information

<b>Softening point</b>	Not available.
<b>Molecular weight</b>	Not available.
<b>VOC Content (%)</b>	Not available.
<b>Density</b>	Not available.
<b>Bulk density</b>	Not available.

## 10. STABILITY AND REACTIVITY

### Reactivity

Stable at normal conditions.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing.

<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
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**Conditions to avoid**

Avoid excessive exposure to heat.

**Incompatible materials**

Strong oxidizing agents.

**Hazardous Decomposition Products**

Lead oxide fumes.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

<b>Product Information</b>	Lead monoxide has generally been found to be of relatively low acute toxicity by ingestion, in contact with skin, and by inhalation.
<b>Inhalation</b>	No data available.
<b>Eye contact</b>	No data available.
<b>Skin Contact</b>	No data available.
<b>Ingestion</b>	No data available.

**Component Information** Lead monoxide is slowly absorbed by ingestion and inhalation and poorly absorbed through the skin. If absorbed, lead will accumulate in the body with low rates of excretion, leading to long-term build up. Part of risk management is to take blood samples from workers for analysis to ensure that exposure levels are acceptable.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Lead Monoxide 1317-36-8	> 10000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	> 5 mg/L/4 hr ( Rat )

**Information on toxicological effects**

**Symptoms** Not available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Studies of lead monoxide have shown that sparingly soluble inorganic lead compounds are not corrosive or irritating to the skin of rabbits. This is supported by the lack of reports of irritant effects from occupational settings. No symptoms of respiratory irritation were noted in rats during long-term inhalation studies involving lead monoxide.
<b>Serious eye damage/eye irritation</b>	Studies of lead monoxide have shown that sparingly soluble inorganic lead compounds are not corrosive or irritating to the eyes of rabbits.
<b>Sensitization</b>	There is no evidence that lead monoxide causes respiratory or skin sensitization.
<b>Germ cell mutagenicity</b>	The evidence for genotoxic effects of highly soluble inorganic lead compounds is contradictory, with numerous studies reporting both positive and negative effects. Responses appear to be induced by indirect mechanisms, mostly at very high concentrations that lack physiological relevance.
<b>Carcinogenicity</b>	An inhalation study of lead monoxide in rats showed that it did not induce, initiate or promote tumors of the lung. However, there is evidence that soluble lead compounds may have a carcinogenic effect, particularly on the kidneys of rats. However, the mechanisms by which this effect occurs are still unclear. Epidemiology studies of workers exposed to inorganic lead compounds have found a limited association with stomach cancer. This has led to the classification by IARC that inorganic lead compounds are probably carcinogenic to humans (Group 2A).

Chemical Name	ACGIH	IARC	NTP	OSHA
Lead Monoxide 1317-36-8	A3	Group 2A	Reasonably Anticipated	Category 1B

<b>Reproductive toxicity</b>	Exposure to high levels of lead monoxide may cause adverse effects on male and female fertility, including adverse effects on sperm quality. Prenatal exposure to lead and its compounds is also associated with adverse effects on fetal development.
<b>STOT - single exposure</b>	Lead monoxide has been found to be of relatively low acute toxicity by ingestion, in contact with skin, and by inhalation, with no evidence of any local or systemic toxicity from such exposures.
<b>STOT - repeated exposure</b>	Lead monoxide is a cumulative poison and may be absorbed into the body through ingestion or inhalation. Inorganic lead compounds have been documented in observational human studies to produce toxicity in multiple organ systems and body function including the hematopoietic (blood) system, kidney function, reproductive function and the central nervous system. Postnatal exposure to lead compounds is associated with impacts on neurobehavioral development in children.
<b>Chronic toxicity</b>	Lead is a cumulative poison. Increasing amounts of lead can build up in the body and may reach a point where symptoms and disabilities occur. Continuous exposure may result in decreased fertility. Lead is a teratogen. Overexposure of lead by either parent before pregnancy may increase the chances of miscarriage or birth defects. May cause cancer. Contains a known or suspected reproductive toxin. May cause adverse kidney effects.
<b>Target Organ Effects</b>	Lead monoxide is a cumulative poison and may be absorbed into the body through ingestion or inhalation. Inorganic lead compounds have been documented in observational human studies to produce toxicity in multiple organ systems and body function including the hematopoietic (blood) system, kidney function, reproductive function and the central nervous system. Postnatal exposure to lead compounds is associated with impacts on neurobehavioral development in children.
<b>Aspiration hazard</b>	Not available.

#### **Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity** 0% of the mixture consists of ingredient(s) of unknown toxicity  
**The following values are calculated based on chapter 3.1 of the GHS document.**  
**Inhalation LC50** TCL<sub>o</sub> 10 mg/m<sup>3</sup>

## **12. ECOLOGICAL INFORMATION**

This product contains a chemical which is listed as a marine pollutant according to DOT. Lead compounds.

#### **Ecotoxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Lead Monoxide 1317-36-8	0.072-0.388: 72 h Pseudokirchneriella subcapitata, Chlorella kesslerii mg/L ErC50 (pH 5.5-6.5) 0.026-0.080: 72 h Pseudokirchneriella subcapitata, Chlorella kesslerii mg/L ErC50 (pH >6.5-7.5) 0.021-0.050: 72 h Pseudokirchneriella subcapitata, Chlorella kesslerii mg/L ErC50 (pH <7.5-8.5)	0.298: 96 h Pimephales promelas mg/L LC50 static 0.041-0.810: 96 h Pimephales promelas, Oncorhynchus mykiss mg/L LC50 (pH 5.5-6.5) 0.052-3.60: 96 h Pimephales promelas, Oncorhynchus mykiss mg/L LC50 (pH >6.5-7.5) 0.114-3.25: 96 h Pimephales promelas, Oncorhynchus mykiss mg/L LC50 (pH >7.5-8.5) 56000: 96 h Gambusia affinis mg/L LC50 static		0.074-0.656: 48 h Daphnia magna, Ceriodaphnia dubia mg/L LC50 (pH 5.5-6.5) 0.029-1.18: 48 h Daphnia magna, Ceriodaphnia dubia mg/L LC50 (pH >6.5-7.5) 0.026-3.12: 48 h Daphnia magna, Ceriodaphnia dubia mg/L LC50 (pH >7.5-8.5)

#### **Persistence and degradability**

Not readily biodegradable.

**Bioaccumulation**

While lead metal and its compounds are generally insoluble, its processing or extended exposure in aquatic and terrestrial environments may lead to the release of lead in bioavailable forms. Lead compounds are not particularly mobile in the aquatic environment, but can be toxic for organisms, especially fish, at low concentrations. Water hardness, pH and dissolved organic carbon content are factors which regulate the degree of toxicity. In soil, lead and lead compounds are generally not very bioavailable.

**Mobility**

Lead and lead compounds will partially settle out due to their fairly low solubility and partially dissolve. In soil, lead and lead compounds are generally not very mobile or bioavailable, as they can be strongly absorbed on soil particles, increasingly over time. It also forms complexes with organic matter and clay minerals that limit its mobility. When released into the soil, this material is not expected to leach into groundwater.

**Other adverse effects** Not available.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

### 14. TRANSPORT INFORMATION

**Note:** This product is not regulated for domestic transport by land, air or rail.

- Under 49 CFR 171.8, individual packages that contain lead metal (<100 micrometers) below the reportable quantity (RQ) are not regulated.
- Under 49 CFR 171.4, except when transporting aboard a vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packaging transported by motor vehicles, rail cars and aircrafts.

**DOT**

<b>Proper shipping name</b>	RQ, Environmentally Hazardous Substance, Solid, N.O.S (Lead)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Reportable Quantity (RQ)</b>	10 lbs
<b>Marine pollutant</b>	This product contains a chemical which is listed as a marine pollutant according to DOT. Lead compounds.
<b>Emergency Response Guide Number</b>	NAERG-171

### 15. REGULATORY INFORMATION

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies



**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Lead Monoxide - 1317-36-8	1317-36-8	90-100	0.1

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Lead Monoxide 1317-36-8		X		

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

**US State Regulations****California Proposition 65**

This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

Chemical Name	California Proposition 65
Lead Monoxide - 1317-36-8	Developmental

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Lead Monoxide 1317-36-8	X	X	

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not Available

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**16. OTHER INFORMATION**

**Issue Date** 08-Aug-2014

**Revision Date** 02-Dec-2014

**Revision Note**

Not available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**