HAMMOND LEAD PRODUCTS

US - OSHA SAFETY DATA SHEET

Issue Date No data available **Revision Date** 23-Sep-2014 **Version** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Litharge High Metallic

Other means of identification

Synonyms HM-Low Regular (Industrial Grade) HM T-Grade (SLI Grade)

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 Not available. **Physical state** Powder **Odor** Not available.

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
• Toxic to aquatic life with long lasting effects
• Toxic to aquatic life
Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Synonyms HM-Low Regular (Industrial Grade), HM T-Grade (SLI Grade).

Chemical Name	CAS No.	Weight-%
Lead Monoxide	1317-36-8	70-100
Powdered Lead	7439-92-1	0-30

4. FIRST AID MEASURES

First aid measures

Eye contact 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.

Skin Contact Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If conscious, have victim clear nasal passages.

Ingestion 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

Symptoms Typical manifestations of lead poisoning include weakness, irritability, asthenia, nausea, abdominal pain with constipation and anemia.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

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

Personal precautions Evacuate personnel to safe areas. Avoid contact with skin, eyes and inhalation of dusts. Avoid creating dust. Use personal protective equipment as required.

For emergency responders Wear respiratory protection. Wear proper personal protective equipment (gloves and goggles). Wear appropriate outer garment to protect clothing.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, surface drainage systems and poorly ventilated areas.

Methods and material for containment and cleaning up

Methods for containment 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.

Methods for cleaning up Avoid dust formation. Clean up dusts with high efficiency particulate air (HEPA) filtered vacuum equipment or by wet cleaning.

Prevention of secondary hazards 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

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Avoid contact with oxidizers and chemically active metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH
Lead Monoxide 1317-36-8	TWA: 0.05 mg/m^3 Pb	TWA: 0.05 mg/m^3 Pb	IDLH: 100 mg/m^3 Pb TWA: 0.050 mg/m^3 Pb
Powdered Lead 7439-92-1	TWA: 0.05 mg/m^3 Pb	TWA: 0.05 mg/m^3 Pb	IDLH: 100 mg/m^3 Pb TWA: 0.050 mg/m^3 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

Eye/face protection Use safety glasses with side shields or chemical goggles.

Skin and body protection 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.

Respiratory protection 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

Physical state	Powder		
Appearance	Not available.	**Odor**	Not available.
Color	Grey/brown	**Odor threshold**	Not available.

Property	**Values**	**Remarks • Method**
pH	Not available.	
Melting point/freezing point	>600 °C	
Boiling point / boiling range	>600 °C	
Flash point	Not applicable (high-melting point solid)	
Evaporation rate	Not applicable (high-melting point solid)	
Flammability (solid, gas)	Not combustible.	
Flammability Limit in Air		
Upper flammability limit:	Not combustible.	
Lower flammability limit:	Not combustible.	
Vapor pressure	Negligible	@ 1085°C
Vapor density	Not applicable (high-melting point solid)	
Specific Gravity	9.96	
Water solubility	70.2 mg/L at 20°C	
Solubility in other solvents	Lead compounds, soluble in 0.07 M hydrochloric acid.	
Partition coefficient	Not applicable (inorganic)	
Autoignition temperature	Not available.	
Decomposition temperature	>600°C	
Kinematic viscosity	Not applicable (solid)	
Dynamic viscosity	Not applicable (solid)	
Explosive properties	Not considered to be explosive	
Oxidizing properties	Not considered to be oxidizing	

Other Information

Softening point	Not available.
Molecular weight	Not available.
VOC Content (%)	Not available.
Density	18-29 g/in3
Bulk density	Not available.

10. STABILITY AND REACTIVITY

Reactivity
Stable at normal conditions. No data available

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid
Avoid excessive exposure to heat.

Incompatible materials
Avoid contact with oxidizers and chemically active metals.

Hazardous Decomposition Products
Lead oxide fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Lead monoxide and other inorganic lead compounds have generally been found to be of relatively low acute toxicity by ingestion, in contact with skin, and by inhalation.

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion 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

Skin corrosion/irritation Studies of lead monoxide and similar compounds 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.

Serious eye damage/eye irritation Studies of lead monoxide and similar compounds have shown that sparingly soluble inorganic lead compounds are not corrosive or irritating to the eyes of rabbits.

Sensitization There is no evidence that lead monoxide causes respiratory or skin sensitization.

Germ cell mutagenicity 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.

Carcinogenicity An inhalation study of lead monoxide in rats showed that it did not induce, initiate or promote tumours 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
Powdered Lead 7439-92-1	A3	Group 2A	Reasonably Anticipated	Category 1B

Reproductive toxicity 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 foetal development.

STOT - single exposure 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.

STOT - repeated exposure 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 haemotopoetic (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.

Chronic toxicity 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. May cause damage to fertility. Contains a known or suspected reproductive toxin. May cause harm to the unborn child. May cause adverse kidney effects.

Target Organ Effects 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 haemotopoetic (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.

Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.

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_o 10 mg/m^3

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)
Powdered Lead 7439-92-1		0.44: 96 h Cyprinus carpio mg/L LC50 semi-static 1.32: 96 h Oncorhynchus mykiss mg/L LC50 static 1.17: 96 h Oncorhynchus mykiss mg/L LC50 flow-through		0.600: 48 h water flea mg/L EC50

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

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

15. REGULATORY INFORMATION

International Inventories

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

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - 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	70-100	0.1
Powdered Lead - 7439-92-1	7439-92-1	0-30	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		
Powdered Lead 7439-92-1		X	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)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Powdered Lead 7439-92-1	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

US State Regulations

California Proposition 65

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

Chemical Name	California Proposition 65
Lead Monoxide - 1317-36-8	Developmental
Powdered Lead - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Lead Monoxide 1317-36-8	X	X	
Powdered Lead 7439-92-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not Available

16. OTHER INFORMATION

Revision Date 23-Sep-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