

MATERIAL SAFETY DATA SHEET

Product Code: D0149; File F:\msdsother\MSDS original vmr\Litharge.doc
Page 1 of 5, Issue No 10, Last revision: October 2012, Date of Issue: 18/01/2013

Section 1 – Statement of Hazardous Nature, Chemical Product and Company Identification

CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA OF ASCC AND CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO THE ADG CODE.

PERTH:

Klen International (74) Pty Ltd;
19 Motivation Drive
Wangara WA 6065
EMAIL: info@klen.com.au
ABN: 25 008 776 681
FAX: (08)9306 8922
TEL: (08) 9306 8900

CONTACT POINT - Chemist - TELEPHONE (08) 9306 8900
EMERGENCY TELEPHONE NUMBER: A/H (+618) 419 906 672

Product Name:

LITHARGE

Synonyms: Lead monoxide, Lead Oxide; Lead (II) oxide; lead oxide yellow; litharge; massicot,
Pigment yellow 46.

EC No.: 215-267-0

Molecular Weight: 223.21

Chemical Formula: PbO

Product Use: gold assay flux

Reach Registration No.: 01-2119531110-62-0053

2. Hazards Identification

Emergency Overview: May be fatal if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. Neurotoxin. Affects the gum tissue, central nervous system, kidneys, blood and reproductive system

NFPA ratings: health = 3; flammability=0; reactivity=0.

Global Harmonised Scheme classification: (Annex VI to Regulation (EC) No 1272/2008): Repr.1A H360Df; Acute Tox.4 H332; Acute Tox. 4 H302; STOT RE 2 H373; Aquatic Acute 1 H400; Aquatic Chronic 1 H410

Potential Health Effects

Inhalation: Lead can be absorbed through the respiratory system. Local irritation of bronchia and lungs can occur and, in cases of acute exposure, symptoms such as metallic taste, chest and abdominal pain, and increased lead blood levels may follow. See also Ingestion.

Ingestion: POISON! The symptoms of lead poisoning include abdominal pain and spasms, nausea, vomiting, headache. Acute poisoning can lead to muscle weakness, "lead line" on the gums, metallic taste, definite loss of appetite, insomnia, dizziness, high lead levels in blood and urine with shock, coma and death in extreme cases.

Skin Contact: Lead and lead compounds may be absorbed through the skin on prolonged exposure; the symptoms of lead poisoning described for ingestion exposure may occur. Contact over short periods may cause local irritation, redness and pain.

Eye Contact: Absorption can occur through eye tissues but the more common hazards are local irritation or abrasion.

Chronic Exposure: Lead is a cumulative poison and exposure even to small amounts can raise the body's content to toxic levels. The symptoms of chronic exposure are like those

MATERIAL SAFETY DATA SHEET

Product Code: D0149; File F:\msdsother\MSDS original vmr\Litharge.doc
Page 2 of 5, Issue No 10, Last revision: October 2012, Date of Issue: 18/01/2013

of ingestion poisoning; restlessness, irritability, visual disturbances, hypertension and grey facial colour may also be noted.

Aggravation of Pre-existing Conditions: Persons with pre-existing kidney, nerve or circulatory disorders or with skin or eye problems may be more susceptible to the effects of this substance.

3. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Lead Oxide	1317-36-8	99.5 - 100%	Yes

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Can produce toxic lead fumes at elevated temperatures and also react with oxidizing materials.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal

7. Handling and Storage

Store in accordance with Australian Standards AS 4452-1997, Storage and handling of toxic substances.

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Areas in which exposure to lead metal or lead compounds may occur should be identified by signs or appropriate means, and access to the area should be limited to authorized persons. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

HSIS Permissible Exposure Limits: Lead, metal and inorganic dusts and fumes, as Pb: TWA 0.15 mg/m³; STEL: nor listed. OSHA Permissible Exposure Limit (PEL): 0.05 mg/m³ (TWA). ACGIH Threshold Limit Value (TLV): 0.05 mg/m³ (TWA). A3 animal carcinogen ACGIH Biological Exposure Indices (BEI): 30 ug/100ml, notation B

MATERIAL SAFETY DATA SHEET

Product Code: D0149; File F:\msdsother\MSDS original vmr\Litharge.doc
Page 3 of 5, Issue No 10, Last revision: October 2012, Date of Issue: 18/01/2013

(see actual Indices for more information). For lead, inorganic: -NIOSH
Recommended Exposure Limit (REL): 0.1 mg/m³ (TWA)

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (AS1715/1716 Approved): If the exposure limit is exceeded, a half-face high efficiency dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full-face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Other Control Measures: Eating, drinking, and smoking should not be permitted in areas where solids or liquids containing lead compounds are handled, processed, or stored. Blood lead levels should be monitored for all personnel potentially exposed to lead dusts.

9. Physical and Chemical Properties

Appearance: Red or reddish yellow powder (yellow form stable above 489°C).

Odour: Odourless.

Solubility: Insoluble in water (0.0017g/100g water). Soluble in acetic acid, nitric acid and alkali

Specific Gravity: 9.53

pH: Strong base

% Volatiles by volume @ 20°C: 0

Boiling Point: 1477°C.

Melting Point: 888°C

Vapour Density (Air=1): No information found.

Vapour Pressure (mm Hg): 10 at 1085°C

Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Toxic metal fumes may form when heated to decomposition.

Hazardous Polymerization: Will not occur.

Incompatibilities: Hydrogen peroxide, lithium carbide, chlorine, ethylene, fluorine, sulfides, acetylides, aluminium, strong reducing agents, combustible materials, chemically active metals.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Litharge: Acute Toxicity: Oral (dog) lowest LD 1400 mg/kg. Intraperitoneal: rat lowest LD 430 mg/kg. Skin (rabbit, adult) 100mg/24h MLD. Inhalation (human, for Lead) TCLo 10 mg/m³ gastrointestinal effects. Inhalation (rat) lowest toxic concentration 10 ug.m³/24h/22wk continuous. Investigated as a tumorigen and mutagen.

MATERIAL SAFETY DATA SHEET

Product Code: D0149; File F:\msdsother\MSDS original vmr\Litharge.doc
Page 4 of 5, Issue No 10, Last revision: October 2012, Date of Issue: 18/01/2013

Reproductive Toxicity: Lead and other smelter emissions are human reproductive hazards (Chemical Council on Environmental Quality; Chemical Hazards to Human Reproduction, 1981). NOHSC: Repr. Cat.1; Repr. Cat.3

Carcinogenicity: For lead and inorganic lead compounds: EPA / IRIS classification: Group B2 – Probable human carcinogen, sufficient animal evidence. Not listed by the NTP, NIOSH, OSHA. IARC Category 2B; ACGIH category A3.

12. Ecological Information

Environmental Fate: For lead and inorganic lead compounds: When released into the soil, this material is not expected to leach into groundwater. This material may bioaccumulate to some extent.

Environmental Toxicity: No information found for lead monoxide. However soluble lead compounds such as lead nitrate may cause long-term effects in the aquatic environment. In the food chain important to humans, bioaccumulation takes place, specifically in marine and terrestrial organism.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Australian Dangerous Goods Code for Transport by Road and Rail (ADG7): UN 2291 Lead Compound, Soluble, N.O.S. (Lead Monoxide); Class 6.1; Hazchem 2Z; PG III

Ocean Transportation (IMDG): UN 2291 Lead Compound, Soluble, N.O.S. (Lead Monoxide); Class 6.1; PG III; Marine Pollutant; EMS: F-A, S-A; Storage: Category A

International Air Transportation (ICAO): UN 2291 Lead Compound, Soluble, N.O.S. (Lead Monoxide); Class 6.1; Hazchem 2Z; PG III.

15. Regulatory Information

Australian Inventory of Chemical Substances (AICS): Lead monoxide is listed.

SUSMP Labelling: Poison Schedule: S6. **FIRST AID:** For advice, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor (at once). If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. **SAFETY DIRECTIONS:** Avoid contact with eyes and skin. Avoid breathing dust

HSIS Classification: Repr. Cat.1; R61; Repr. Cat.3; R62; Xn; R20/22 R33; N; R50-53

HSIS (Safe Work Australia) Labelling: T Toxic; N Dangerous for the Environment. Risks: R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility. R20/22 Also harmful by inhalation and if swallowed. R33 Danger of cumulative effects. R50 Very toxic to aquatic organisms. R53 May cause long-term adverse effects in the aquatic environment. Safety: S53 Avoid exposure – obtain special instructions before use. S45 In case of accident or you feel unwell, seek medical advice immediately. S60 This material and its container must be disposed of as hazardous waste. S61 Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

GHS Classification: (Annex VI to Regulation (EC) No 1272/2008): Repr.1A H360Df ; Acute Tox.4 H332; Acute Tox. 4 H302; STOT RE 2 H373; Aquatic Acute 1 H400; Aquatic Chronic 1 H410. Concentration Limits: C>= 2.5% (Repr. 2; H361f); C>=0.5% (STOT RE 2; H373)

GHS Labelling: Pictogram and signal words: GHS08, GHS07, GHS09, Dgr. Hazard Statements: H360Df May damage the unborn child. Suspected of damaging fertility. H332

MATERIAL SAFETY DATA SHEET

Product Code: D0149; File F:\msdsother\MSDS original vmr\Litharge.doc
Page 5 of 5, Issue No 10, Last revision: October 2012, Date of Issue: 18/01/2013

Harmful if inhaled. H302 Harmful if inhaled. H373 May cause damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects. Pictograms:



Health hazard Exclamation mark Environment

16. Other Information

NFPA ratings: health = 3; flammability = 0; reactivity = 0.

Note on Dangerous Good Classification. The oral LD50 of litharge is 430 mg/kg, which is above the cut-off point of 300 mg/kg for oral ingestion Class 6.1 in ADG Code 7. However it is soluble under the Special Provision 199 conditions and must be classified as UN 2291 Lead Compound, Soluble N.O.S.(Lead Monoxide); Class 6.1; PG III.

Last Change: Section 2, 15 – add GHS labelling and classifications

The above information is accurate to the best of the knowledge available to us. However since data safety standards and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control we make no warranty, whether express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.