Vickers Laboratories Limited – Material Safety Data Sheet 0145

1. Identification

Product Code **0145**

Product Name **CALCIUM HYDROXIDE pure**

Molecular Formula **$Ca(OH)_2$ =74.09**

CAS Number **1305-62-0**

Supplier: **VICKERS LABORATORIES LIMITED**

Grangefield Industrial Estate
Richardshaw Road
Pudsey
West Yorkshire, England
LS28 6QW

Phone **+44(0)113-236-2811**
Fax **+44(0)113-236-2703**

Emergency Telephone **08:00-16:30 +44(0)113-236-2811**
24hr 112
(Have this document to hand)

2. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
Calcium hydroxide	1305-62-0	215-137-3	> 92.0%	Xn : R38,R41	WEL

3. Hazards Identification

Irritating to skin. Risk of serious damage to eyes.

4. First Aid Measures

Eyes: Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION URGENTLY.

Skin: Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation: Remove from exposure.

Ingestion: If conscious give plenty of water to drink. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION.

5. Fire Fighting Measures

Hazards: Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. May evolve toxic fumes if involved in a fire.

Extinguishing Media: Dry chemical powder.

Unsuitable Media: Nothing specified.

6. Accidental Release Measures

Personal Protection: Use approved personal protective equipment. Avoid breathing dust. Do not allow general use of area until it is safe to do so.

Enviromental: Presents no major environmental hazard.

6. Accidental Release Measures (continued)

Major Spillage	Shovel/sweep up into container for removal Wash to drain with copious amounts of water.
Minor Spillage	Wash to drain with copious amounts of water.

7. Storage & Handling

Handling Precautions	Avoid contact with skin and eyes. Do not breath dust. Do not allow to contaminate clothing. Ensure Local Exhaust Ventilation maintains dust concentrations below the recommended limits.
Storage Conditions	Well ventilated, cool, dry storage . Keep well protected from ingress of water and well separated from acids

8.1 Workplace Exposure Limits

Workplace Exposure Limits	Long Term (8hr TWA):	-	ppm	5.000	mg m-3
	Short Term (15min Period):	-	ppm	-	mg m-3

8.2 Personal Protection

Respiratory	Use L.E.V. or natural ventilation to maintain dust concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hands	Use nitrile gloves or PVC gauntlets.
Eyes	Use chemical splash proof glasses or goggles.
Skin	Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

9. Physical & Chemical Properties

Appearance	Fine dry white powder.
Odour	Odourless.
pH	12 @ 20 °C
Boiling point	0.0 °C
Melting point	Not available
Flash point	Not available
Upper Flammable Limit	Not available
Lower Flammable Limit	Not available
Auto Ignition	Not available
Explosive properties	No.
Oxidising Properties	No.
Vapour Presure	Not available
Relative Density	2.3430 °C
Water Solubility	Slightly soluble in water.

10. Stability & Reactivity

Chemical Stability	Stable under normal conditions
Conditions to Avoid	Avoid ingress of water and contact with acids.
Materials to Avoid	Acids. Reacts violently with maleic anhydride and nitroparaffins eg nitromethane. May form toxic materials when heated with a mixture of potassium nitrate and chlorinated phenols.
Hazardous Decomposition Products	May produce hazardous fumes if involved in a fire.

11. Toxicological Information

Eyes	Contact with the solid or dust will be irritating to the eyes, and may cause burns and corneal opacification.
Skin	Contact with the solid or dust will be irritating to the skin. Repeated exposure may cause dermatitis.

11. Toxicological Information (continued)

LD50 Skin	Not available
Ingest	Low order of acute toxicity. Ingestion of large amounts will cause nausea, abdominal discomfort, vomiting and diarrhoea.
LD50 Ingest	Oral Rat 7.34g/Kg
Inhalation	Prolonged exposure to dust or fume concentrations above the occupational exposure limits will produce irritation of the eyes, nose, throat and respiratory tract.
Carcinogenicity	No information is available.
Mutagenicity	No information is available.
Reproductive Effects	No information is available.
Other Information	The irritant effect provides warning that control of exposure is needed.

12. Ecological

Small amounts present no specific environmental hazard.

13. Disposal Considerations

Disposal Methods	Carefully neutralise with 10% hydrochloric acid, (test with litmus blue -> red), then add a large excess of water, decant the solution and run to waste. Dispose of the sand as solid waste.
Contaminated Packaging	Clean out with a weak hydrochloric acid solution then wash out thoroughly with water.

14. Transport Information

Proper Shipping Name	Non-restricted
UN Number	Non-restricted
UN Classification	None
Subsidiary Risk	None
Flash Point	Not available
Packing Group	None
Transport Category	None
Marine pollutant	No
ADR Hazard ID	Non-restricted

15. Regulatory Information

Labelling Classification	Harmful.
Label Symbols	Xn 
Risk & safety Phrases	Irritating to skin. Risk of serious damage to eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.
EEC Number	215-137-3

16. Other Information

Document Information	This document has been prepared in accordance with directive 88/379/EEC.
	The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment.

16. Other Information (continued)

Revision Date: 10/06/05.
Data reviewed and PDF file generated: 23/07/09.

MATERIAL SAFETY DATA SHEET – LEAD
(Also Available in Spanish, See Section 16)

SECTION 1 - PRODUCT IDENTIFICATION and COMPANY INFORMATION

Product Name: Lead

Synonyms: Lead, sheet; Lead, bricks; Lead, flashings; Lead, ingot; Lead, pipe; Lead, wool; Lead, solder; Lead alloy, and other miscellaneous Lead products

CAS No: 7439-92-1

Molecular Weight: 207.19

Chemical Formula: Pb

Contact Information:
Mayco Industries, Inc.
18 West Oxmoor Road
Birmingham, AL 35209

Phone: 205-942-4242

Sales: 800-749-6061

Web site: www.maycoindustries.com

SECTION 2 – COMPOSITION and INFORMATION on INGREDIENTS

Material	% by Wt.	CAS #	OSHA EXPOSURE LIMIT
Lead	91 – 99.99	7439-92-1	0.05 mg/cubic meter
Antimony	0.5 – 9.0	7440-36-0	0.50 mg/cubic meter

SECTION 3 – HAZARDS INDENTIFICATION

Potential Health Effects

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

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

Skin Contact: Lead may be absorbed through the skin after prolonged exposure. Contact over short periods may cause local irritation.

Eye Contact: May cause eye irritation.

Signs & Symptoms of Overexposure

Acute (short term) exposure: Lead is a potent, systemic poison; taken in large enough doses, lead can kill in a matter of days. Acute encephalopathy may arise which develops quickly to seizures, coma and death from cardio-respiratory arrest.

Chronic (long term) exposure: Chronic overexposure to lead may result in severe damage to blood forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle & joint pain, fine tremors, numbness, dizziness, hyperactivity, colic.

SECTION 4 – FIRST AID MEASURES

Emergency & First Aid Procedures
Inhalation: Remove from exposure. Get medical attention if individual experiences any of the acute effects listed above.

Skin: Wash thoroughly with soap and water.

Eyes: Flush with cool running water for at least 15 minutes. Get medical attention if irritation develops.

Ingestion: Get medical attention.

Potential to Cause Cancer
Lead has been proven to cause cancer in animals. Certain lead compounds are suspect human carcinogens.

SECTION 5 - FIRE and EXPLOSION DATA

Flash Point: Not applicable
Extinguishing Media: Dry chemical, foam or CO2
Special Fire Fighting Procedures: Use positive pressure, self-contained breathing apparatus.
Unusual Fire and Explosion Hazard: None
Lead is not considered to be a fire hazard. Powder/dust is flammable when heated or exposed to flame.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Protective Measures To Be Taken If Material Is Released Or Spilled: Mechanically collect material and place in drums. Use of a vacuum system with a high-efficiency filter is preferable. Process collected material through in-plant reclamation system or send to a lead smelter for reclamation following applicable federal, state and local regulations.

Use protective clothing, gloves and respiratory protection when cleaning up spills.

SECTION 7 – HANDLING and STORAGE

Precautions: Store in a protected area. Keep away from heat and sources of ignition. Do not ingest. Do not breathe dust or fume. Wear suitable protective clothing. Keep away from incompatibles such as oxidizing agents.

Other Handling & Storage Precautions
Occupational exposure to elemental lead, inorganic lead compounds and lead soaps (except in the construction industry and agricultural operations) is regulated by the Occupational Safety and Health Administration, Title 29 CFR 1910.1025, "Lead". The aforementioned OSHA regulation should be consulted to assure employees working with lead are properly protected. Exposure to lead in the construction industry is regulated by the Occupational Safety and Health Administration, Title 29 CFR, 1926.62.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Measures
Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust or fume, use ventilation to control airborne contaminants.

Work Practices: Avoid generating dust. Do not throw scrap to avoid generation of dust. Store scrap in appropriate containers and keep covered. Do not dry sweep or use compressed air to remove accumulations of lead dust. Vacuuming, using a high-efficiency filtration system is the preferred method for clean-up.

Personal Protection

If the OSHA exposure limit for lead is exceeded and engineering controls are not feasible, a half-face high efficiency respirator may be worn for up to ten times the exposure limit. Other recommended personal protective equipment (PPE) includes protective clothing, including boots and gloves to prevent prolonged skin contact, and safety glasses or goggles.

Other control Measures

Eating, drinking, smoking, and the application of cosmetics should not be permitted in areas where lead products are handled, processed, or stored.

SECTION 9 – PHYSICAL and CHEMICAL PROPERTIES

Material, at normal temperature, is: Solid
Boiling Point, at 760 mm Hg: 1740 C
Specific Gravity: 11.3 (Water = 1)
Vapor Density: Not Applicable
% Volatile by Weight: Not Applicable
Appearance & Odor: Solid, gray with bluish or silvery cast depending on alloy. No odor
Melting Point: 327° C (620° F)
Vapor Pressure: 1 mm Hg @ 970
Solubility in Water: Slightly soluble in water in the presence of nitrates, ammonium and carbon dioxide
Evaporation Rate: Not applicable

SECTION 10 – STABILITY and REACTIVITY

Stability: Stable
Incompatibility (materials to avoid): Reactive with strong Oxidizers
Hazardous Polymerization: Will not occur
Conditions to Avoid: Avoid contact with incompatible materials

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SECTION 11– TOXICOLOGICAL INFORMATION

Investigated as a tumorigen, mutagen and reproductive effector. Lead is a human reproductive hazard.
Lead is a probable human carcinogen, proven for animals.

SECTION 12– ECOLOGICAL INFORMATION

Precautions should be taken to prevent the release of lead into the environment. Lead may bioaccumulate to some extent

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SECTION 13– DISPOSAL CONSIDERATIONS

Lead scrap can be recycled. Waste materials must be disposed in accordance with federal, state and local environmental requirements.

SECTION 14– TRANSPORT INFORMATION

Lead metal is not a DOT regulated material.

SECTION 15– OTHER REGULATORY INFORMATION

California Proposition 65: Lead in this product is known to the State of California to cause cancer, birth defects, reproductive harm, and other serious injury and would require a warning under the statute.

HMIS (U.S.A.)
Health Hazard: *2
Fire Hazard: 0
Reactivity: 0
Personal Protection: F

National Fire Protection Association (.U.S.A)
Health Hazard: 2
Flammability: 0
Reactivity: 0
Specific hazard:

SECTION 16– OTHER INFORMATION

Date MSDS Updated: March 10, 2011

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MERCURY SAFETY PRODUCTS LIMITED – MATERIAL SAFETY DATA SHEET

1. Identification

Product Code	**HK, REPLEN-UN, REPLEN-USED**
Product Name	**SULPHUR, RESUBLIMED**
Molecular Formula	**S = 32.06**
CAS Number	**7704−34−9**
Supplier:	**MERCURY SAFETY PRODUCTS LIMITED** **6 Chartwell Avenue** **Ruddington** **Nottingham** **Nottinghamshire, UK** **NG11 6DJ**
Phone	**+44(0)115 921 3833**
Fax	**+44(0)115 921 3879**
Email	**info@mercurysafety.co.uk**
Emergency Telephone	**08:00−16:30 +44(0)115 921 3833 (Have this document to hand)**

2. Hazards Identification

Highly flammable. Liberates toxic gas on burning.

3. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases Exp (See 8.1)
Sulphur	7704−34−9	231−722−6	100.0%	F : R11,R90 N/A

4. First Aid

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re−use.
Inhalation	Remove from exposure. Keep warm and at rest.

Ingestion	Wash out the patients mouth thoroughly with water. OBTAIN MEDICAL ATTENTION URGENTLY.

5. Fire

Hazards	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes.

Fire−fighters should wear protective clothing and breathing apparatus. May evolve toxic fumes if involved in a fire.

Extinguishing Media	Water spray, dry powder or carbon dioxide.
Unsuitable Media	Do not use water jet.

6. Accidental Release Measures

Personal Protection	Avoid breathing dust. Use approved personal protective equipment.
Enviromental	Presents no major environmental hazard.
Major Spillage	Vacuum up into container for removal. Carefully remove material from vacuum cleaner and transfer Wash area down with copious amounts of water.
Minor Spillage	Vacuum up into container for removal. Carefully remove material from vacuum cleaner and transfer Wash area down with copious amounts of water.

7. Storage and Handling

Handling Precautions	Avoid contact with skin and eyes. Do not breath dust. Do not allow to contaminate clothing. All transfer systems should be earthed to prevent accumulation of static electricity. Ensure Local Exhaust Ventilation maintains dust concentrations below the recommended limits.
Storage Conditions	Well ventilated, cool, dry storage . Keep well separated from oxidising agents. Keep well separated from combustible materials.

8. Workplace Exposure and Personal Protection

No prescribed exposure limits available

Respiratory	If process creates significant amounts of dust use L.E.V. or wear suitable dust mask.
Hands	Wear gloves.
Eyes	Use chemical splash proof glasses or goggles.
Skin	Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

9. Physical and Chemical Properties

Appearance	Yellow powder.
Odour	Characteristic.
pH	Not available
Boiling point	444.0 °C
Melting point	114.0 °C
Flash point	157.0 °C(Closed cup)
Upper Flammable Limit	Not available
Lower Flammable Limit	Not available
Auto Ignition	280.0 °C
Explosive properties	Can form explosive dust clouds−limits: lower 35g/m3 −upper 400mg/m3
Oxidising Properties	No.
Vapour Presure	0.0001 mbar
Relative Density	2.0000
Water Solubility	Insoluble in water.

10. Stability and Reactivity

Chemical Stability	Stable under normal conditions
Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
Materials to Avoid	Strong oxidising agents.
Hazardous Decomposition Products	Liberates toxic and acidic dense white fumes of sulphur dioxide.

11. Toxicological Information

Eyes	Presents no significant health hazard to the eyes.
Skin	Presents no significant hazard by skin contact.
LD50 Skin	Not available
Ingestion	Presents no significant hazard by ingestion.
LD50 Ingest	Oral Rat 5g/Kg
Inhalation	Presents no significant health hazard by inhalation.
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.
Other Information	Major health hazard would be in case of fire when toxic sulphur dioxide fumes are evolved.

12. Ecological

No specific environmental hazard.

13.Disposal Considerations

Disposal Methods Dispose of in a licensed incinerator. Do not dispose of as domestic waste.
Contaminated Packaging Use a licensed waste disposer.

14. Transport Information

Proper Shipping Name	Sulphur
UN Number	1350
UN Classification	4.1 Flammable solid
Subsidiary Risk	None
Flash Point	157.0 °C(Closed cup)
Packing Group	III
Transport Category	3
Marine pollutant	No
ADR Hazard ID	40

15. Regulatory Information

Labelling Classification	Highly Flammable.
Label Symbols	F
Risk & safety Phrases	Highly flammable. Liberates toxic gas on burning.
EEC Number	231−722−6

16. Other Information

This document has been prepared in accordance with regulation 1272/2008/CE.
The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment.

Revision Data 22/11/2012
Date PDF created