

Safety Data Sheet LIME

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name LIME
Product code PID904
Synonyms CALCIUM HYDROXIDE, HYDRATKALK

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Drilling fluid additive. pH modifier
Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield UK LTD
Minerva, Manor Royal London Road
Crawley
RH10 9BU
United Kingdom

+44 1293 556655

SDS@slb.com

1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Classification

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity - Single exposure	Category 3

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word

DANGER

Hazard Statements

H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

Precautionary statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P362 + P364 - Take off contaminated clothing and wash it before reuse

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Contains

Calcium hydroxide

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Chemical Name	EC No	CAS No	Weight-%
Calcium hydroxide	215-137-3	1305-62-0	60-100

3.2 Mixtures

Not applicable

4. First Aid Measures

4.1 First aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.
Eye Contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
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Symptoms

Inhalation	Please see Section 11. Toxicological Information for further information.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	Please see Section 11. Toxicological Information for further information.
Eye contact	Please see Section 11. Toxicological Information for further information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol Foam, CO₂, Dry Chemical.

Extinguishing media which must not be used for safety reasons

Water.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Fire or high temperatures create: Calcium oxide.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Methods for cleaning up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation.

Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Avoid contact with: Acids
Storage class	Chemical storage.
Packaging materials	Use specially constructed containers only.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Component Information

Chemical Name	Arabic	Australia	Egypt
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Calcium hydroxide	5 mg/m ³ TWA	5mg/m ³ TWA	5 mg/m ³ TWA
Chemical Name	India	Indonesian	Japan
Calcium hydroxide	Not determined	5 mg/m ³ TWA	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Calcium hydroxide	2 mg/m ³ MAC	15.0 mg/m ³ TWA 5.0 mg/m ³ TWA	5 mg/m ³ TWA
Chemical Name	Malaysia	Philippines	Russia
Calcium hydroxide	5 mg/m ³ TWA	Not determined	Skin notation 2 mg/m ³ MAC Skin
Chemical Name	Thailand	Vietnam	Turkey
Calcium hydroxide	15 mg/m ³ TWA 5 mg/m ³ TWA	5 mg/m ³ TWA	5 mg/m ³ TWA

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls

Ensure adequate ventilation, especially in confined areas Provide appropriate exhaust ventilation at places where dust is formed

Personal protective equipment

Eye protection

Use eye protection according to EN 166, designed to protect against dusts Wear chemical splash goggles and face shield

Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders
Wear protective nitrile rubber gloves
Frequent change is advisable

Respiratory protection

No personal respiratory protective equipment normally required Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Skin and body protection

Wear suitable protective clothing and gloves Eye wash and emergency shower must be available at the work place.

Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



8.2.3 Environmental exposure controls

Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state

Solid

Appearance	Powder
Color	White - Off-white
Odor	Odorless
<u>Property</u>	<u>Values</u>
pH	12.4
pH @ dilution	No information available
Melting / freezing point	> 450 °C / > 842 °F
Boiling point/range	No information available
Flash point	No information available
Evaporation rate (BuAc =1)	No information available
Flammability	Not applicable
Explosion limits:	
Upper explosion limit	No information available
Lower explosion limit	No information available
Vapor pressure	No information available
Relative Vapor Density	No information available
Specific gravity	2.24
Bulk density	400 Kg/m³
Water solubility	Soluble in water
Solubility in other solvents	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Partition Coefficient	No information available
(n-octanol/water)	
Density and/or Relative Density	No information available
Explosive properties	No information available
Oxidizing properties	No information available

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Avoid dust formation. Protect from moisture.

10.5 Incompatible materials

Acids. Water.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	May cause respiratory irritation. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Eye contact	Causes serious eye damage.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause stomach discomfort. May cause additional affects as listed under "Inhalation".
Unknown acute toxicity	Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium hydroxide	= 7340 mg/kg (Rat)	> 2500 mg/kg (Rat)	> 6.04 mg/L (Rat) 4 h

Sensitization	This product does not contain any components suspected to be sensitizing.
Mutagenic effects	This product does not contain any known or suspected mutagens.
Carcinogenicity	This product does not contain any known or suspected carcinogens.
Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
Routes of Exposure	Eye contact. Skin contact. Inhalation.
Routes of entry	Inhalation.
Specific target organ toxicity - Single exposure	Category 3
Specific target organ toxicity - Repeated exposure	Not classified.
Target organ effects	Respiratory system.
Aspiration hazard	Not applicable.

11.2 Information on other hazards

Other information Key literature references and sources for data. See Section 16 for more information.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Listed on PLONOR list of OSPAR

Toxicity to algae

This product is not considered toxic to algae.

Toxicity to fish

This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Calcium hydroxide	No information available	No information available	No information available

12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Calcium hydroxide	Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
Calcium hydroxide	No bioaccumulation potential

12.4 Mobility

Mobility

Soluble in water. See component information below.

Chemical Name	Mobility
Calcium hydroxide	Easily soluble

Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Calcium hydroxide	Not expected to adsorb on soil

12.5 Other adverse effects

None known.

12.6 Other information.

Key literature references and sources for data. See Section 16 for more information.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken for local recycling, recovery or waste disposal.

14. Transport information

14.1. UN number

Not regulated

14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	Not regulated
IMDG/ANTAQ Hazard class	Not regulated
ICAO/ANAC Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing group	Not regulated
IMDG/ANTAQ Packing group	Not regulated
ICAO/ANAC Packing group	Not regulated

14.5 Environmental hazard

No

14.6 Special precautions

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Please contact SDS@slb.com for info regarding transport in Bulk.

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet complies with the requirements of:
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam

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Version 9

This SDS has been revised in the following section(s) All sections. No changes with regard to classification have been made.

Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

HMIS classification

Health 3

Flammability 0

Physical hazard 0

PPE E

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