

SAFETY DATA SHEET

Revision date: 26-Nov-2024 Revision Number 6

Section 1: Identification

Product identifier

Product Name QUICKLIME

Product Code(s) 000034372901

Other means of identification

CAS No. 1305-78-8

Synonyms Calcium oxide; Quicklime; Burnt lime; Unslaked lime; Fluxing lime; Calx.

Recommended use of the chemical and restrictions on use

Recommended use As a flux in the steel industry and in the production/recovery of aluminium, magnesium,

uranium gold and silver. It is used to make chemicals such as sodium alkalis, calcium

hypochlorite and petrochemicals; can be used in soil stabilisation.

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

IXOM Operations Pty Ltd (Incorporated in Australia)

NZBN: 9429041465226

Street Address: 166 Totara Street

Mt Maunganui South

New Zealand

Telephone Number: +64 9 368 2700

Facsimile: +64 9 368 2710

Emergency telephone number

Emergency Telephone 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020. GHS Classification

Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1

Label elements



Signal word Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash face, hands and any exposed skin thoroughly after handling.

Wash eyes thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/clothing and eye/face protection.

Precautionary Statements - Response

Specific treatment (see First aid on this SDS).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Immediately call a POISON CENTER or doctor.

Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF SWALLOWED: Immediately call a POISON CENTER or doctor.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

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

Other hazards which do not result in classification

No information available.

Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Calcium oxide	1305-78-8	90-95
Crystalline silica (Quartz)	14808-60-7	1-4
Magnesium oxide	1309-48-4	0.5-1.5
Limestone	1317-65-3	0-2
Aluminium oxide	1344-28-1	0-1.5
Iron (III) oxide	1309-37-1	0-1

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Section 4: First-aid measures

Description of first aid measures

General advice For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New

Zealand 0800 764 766) or a doctor.

Inhalation Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If

breathing has stopped, give artificial respiration. Get medical attention immediately.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue

rinsing. Do not rub affected area. Call a physician immediately.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Rinse mouth thoroughly with water. Drink 1 or 2 glasses of water. Do NOT induce vomiting.

Never give anything by mouth to an unconscious person. Get medical attention if symptoms

occur.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. Erythema (skin redness). Burning.

Irritation/Corrosion.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to physiciansTreat symptomatically. Can cause corneal burns.

Section 5: Fire-fighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media Dry chemical or CO2.

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical

Specific hazards arising from the

Non-combustible.

chemical

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

Section 6: Accidental release measures

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Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Ensure

adequate ventilation. Do not touch or walk through spilled material. Use personal protective

equipment as required. Wash thoroughly after handling.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled

material and place in suitable container. Avoid generating dust.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray.

Ensure adequate ventilation. Take off contaminated clothing and wash before reuse. Use

personal protection equipment. Wash thoroughly after handling.

General hygiene considerations Regular cleaning of equipment, work area and clothing is recommended. Do not eat, drink

or smoke when using this product. Wash hands and face before breaks and immediately

after handling the product.

Conditions for safe storage, including any incompatibilities

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

moisture. Keep container closed when not in use.

Incompatible materials Hydrofluoric acid. Water. Steam. Phosphorus pentoxide. Water of crystallisation. Moisture.

Aluminium.

Section 8: Exposure controls/personal protection

Control parameters

Exposure Limits No value assigned for this specific material by the New Zealand Workplace Health & Safety

Authority. However, Workplace Exposure Standard(s) for constituents:.

Chemical name	New Zealand	Australia	ACGIH TLV	United Kingdom
Calcium oxide	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 1 mg/m ³
1305-78-8		-	-	TWA: 2 mg/m ³

				STEL: 4 mg/m ³ STEL: 6 mg/m ³
Crystalline silica (Quartz) 14808-60-7	TWA: 0.025 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.025 mg/m ³ respirable particulate matter	TWA: 0.1 mg/m³ STEL: 0.3 mg/m³
Magnesium oxide 1309-48-4	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m³ inhalable particulate matter	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Limestone 1317-65-3	TWA: 10 mg/m ³	-	-	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³
Aluminium oxide 1344-28-1	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 1 mg/m³ respirable particulate matter	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Iron (III) oxide 1309-37-1	TWA: 5 mg/m ³	TWA: 5 mg/m³	TWA: 5 mg/m³ respirable particulate matter	TWA: 5 mg/m ³ TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 10 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³

Iron oxide dust & fume (Fe2O3), as Fe: 8hr WES-TWA = 5 mg/m³ Silica-Crystalline a-Quartz: WES-TWA = 0.025 mg/m³ (respirable dust), confirmed carcinogen (r)

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

(r) - The value for respirable dust.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls

Engineering controls

Eyewash stations. Ventilation systems. For bulk deliveries, closed pumping systems are recommended. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.



Tight sealing safety goggles. Eye/face protection

Hand protection Impervious gloves.

Skin and body protection Overalls. Wear suitable protective clothing. Boots.

Respiratory protection If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator

meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Solid

Appearance Granular Amorphous Powder

Color Off-white Odor Slight

No information available **Odor threshold**

Property **Values** Remarks • Method

12.5-12.8 (1.65 g/L, 25°C, for CaO) Hq None known Melting point / freezing point 2570°C None known 2850°C None known Boiling point / boiling range None known Flash point Not applicable **Evaporation rate** No data available None known Flammability (solid, gas) No data available None known Flammability Limit in Air None known

Upper flammability or explosive No data available

limits

Lower flammability or explosive No data available

limits

Vapor pressure No data available None known Vapor density No data available None known

Relative density 3.2-3.4

Water solubility Reacts with water None known Solubility(ies) No data available None known Partition coefficient No data available None known No data available None known **Autoignition temperature Decomposition temperature** None known None known

Kinematic viscosity No data available

No data available **Dynamic viscosity**

Other information

Bulk density 950-1050 kg/m³

Particle characteristics

Section 10: Stability and reactivity

Reactivity

Reactivity Reacts exothermically on dilution with water. Reacts with acids.

Chemical stability

Stability Crumbles on exposure to air. Readily absorbs carbon dioxide and moisture from air. Reacts

with water to form calcium hydroxide with evolution of heat. Becomes incandescent when

heated near its melting point.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Hazardous polymerization Hazardous polymerization does not occur.

Possibility of hazardous reactions Reacts with water to form calcium hydroxide with evolution of heat.

Conditions to avoid

Conditions to avoid Protect from moisture. Moisture.

Incompatible materials

Incompatible materials Hydrofluoric acid. Water. Steam. Phosphorus pentoxide. Water of crystallisation. Moisture.

Aluminium.

Hazardous decomposition products

Hazardous decomposition products Calcium oxides.

Section 11: Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information No adverse health effects expected if the chemical is handled in accordance with this Safety

Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is

mishandled and overexposure occurs are:

Inhalation May cause irritation. Inflammation of the respiratory passages, ulceration and perforation of

the nasal septum, and pneumonia have been attributed to inhalation of calcium oxide dust; severe irritation of the upper respiratory tract usually causes people to avoid extreme

exposure.

Eye contact Causes serious eye damage.

Skin contact Causes burns.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms May cause redness and tearing of the eyes. Erythema (skin redness). Burning. Coughing

and/ or wheezing. Difficulty in breathing. Irritation/Corrosion.

Acute toxicity

Numerical measures of toxicity

No information available

Component Information

Component intermediation			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Calcium oxide	-	-	> 6.04 mg/L (Rat) 4 h
Magnesium oxide	= 3990 mg/kg (Rat)	-	-
	= 3870 mg/kg (Rat)		
Aluminium oxide	> 5000 mg/kg (Rat)	-	-
Iron (III) oxide	> 10000 mg/kg (Rat)	-	-

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

Skin corrosion/irritation Causes burns.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Crystalline silica (Quartz) - 14808-60-7	-	Group 1
Iron (III) oxide - 1309-37-1	-	Group 3

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposureNo information available.

Aspiration hazard No information available.

Chronic effects: The toxicity of crystalline silica is directly proportional to the ability of any particle to reach

the lower respiratory tract. Quartz particles with an aerodynamic diameter below 4um are likely to be most harmful to humans, as they reach the lower respiratory tract and are less

readily removed by the lungs.

Increases in lung cancer have been attributed to the inhalation of crystalline silica in a number of industries, including; ore mining, quarrying and granite works, ceramics, pottery, refractory brick and diatomaceous earth industries and in foundry workers.

The International Agency for Research on Cancer has classified crystalline silica as a Type 1 Carcinogen - Carcinogenic to Humans, based on sufficient evidence in humans and animals.

Increasing in vitro and in vivo evidence suggests that lung carcinomas in rats are a result of marked and persistent inflammation and epithelial proliferation.

Crystalline silica also causes a range of non-neoplastic pulmonary effects, including; inflammation, silicosis, lymph node fibrosis, airways disease, emphysema and increased permeability of the airspace epithelium.

Data used to identify the health effects

Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity

Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Calcium oxide	-	LC50: =1070mg/L (96h,	-
		Cyprinus carpio)	
Iron (III) oxide	-	LC50: =100000mg/L (96h,	-
·		Danio rerio)	

Terrestrial ecotoxicity There is no data for this product.

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Mobility in soil

Mobility No information available.

Other adverse effects

No information available.

Section 13: Disposal considerations

Waste treatment methods

Waste from residues/unused Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30

April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. products

Treat the substance using a method that changes the characteristics or composition of the

substance so that the substance is no longer a hazardous substance; or export the

substance from New Zealand as waste.

Empty containers should be taken to an approved waste handling site for recycling or Contaminated packaging

disposal..

Section 14: Transport information

ROAD AND RAIL TRANSPORT Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on

Land: NON-DANGEROUS GOODS.

IATA Classified as Dangerous Goods by the criteria of the International Air Transport Association

(IATA) Dangerous Goods Regulations for transport by air: DANGEROUS GOODS.

UN number 1910

CALCIUM OXIDE UN proper shipping name

Transport hazard class(es) 8 Packing group Ш

IMDG Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous

Goods Code (IMDG Code) for transport by sea: NON-DANGEROUS GOODS.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

Section 15: Regulatory information

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

EPA New Zealand HSNO approval code or group standard

HSR002491 - Additives, Process Chemicals and Raw Materials (Corrosive)

National regulations There are no applicable tolerable exposure limits or environmental exposure limits

according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license

requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check

the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for

more information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

NZIOC All the constituents of this material are listed on the New Zealand Inventory of Chemicals.

TSCA

Contact supplier for inventory compliance status.

All the constituents of this material are listed on the Australian Inventory of Industrial

Chemicals.

TCSI Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals

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

AIIC- Australian Inventory of Industrial Chemicals

TCSI - Taiwan Chemical Substance Inventory

Section 16: Other information

Supplier Safety Data Sheet 10/2020

Prepared By

This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and

SDS Services).

Revision date: 26-Nov-2024

Reason(s) For Issue: 5 Yearly Revised Primary SDS

Updated Formulation

Revision Note:

***Indicates updated data since last publication.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity ATE: Acute Toxicity Estimate LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

** Hazard Designation + Sensitizers

C Carcinogen

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

8.2C, 8.3A

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.

IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet