Safety Data Sheet

Product name:

Soda lime

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Compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758
Prepared according to GB CLP which is the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain

1	SECTION 1: IDENTIFICATION OF SUBSTANCE / PREPARATION AND OF THE COMPANY/UNDERTAKING	
1.1	Product identifier	Substance name: Soda Lime – Brand names: (Sofnolime, CO2ntrol, Medisorb, Soda Lime HC, CHIRAlime, Limepak, Medisize, Limedic, Vetsorb, SodaSthesia, Leonsorb plus, Tigersorb, Durasorb, Sodasorb and Sodasorb LF)
	Unique Formula Identifier (UFI)	3C00-W0DX-T007-1TQA
1.2	Relevant identified uses of the substance or mixture and uses advised against	Relevant identified uses: As an absorbent for carbon dioxide and other acidic gases Uses advised against: Do not use for private purposes (Household) Reason why uses advised against: Only for use by medical professionals
1.3	Details of the Supplier of the safety data sheet	Molecular Products Ltd Parkway, Harlow Business Park, Harlow, Essex CM19 5FR, UK +44 (0) 1279 445111 (1) sds@molprod.com (1) Only available during office hours 0900 – 1700 GMT
1.4	Emergency telephone number	+44 (0) 1865 407333 (UK) +86 532 8388 9090 (China, NRCC) +52 555 004 8763 (México) +56 225 829 336 (Chile) +55 11 3197 5891 (Brazil) +47 2103 4452 (Norway)

2	SECTION 2: HAZARDS IDENTIFICATION			
2.1	Classification of the substance or mixture			
2.1.1	Classification according to Regulation (EC) No 1272/2008 (CLP/GHS) – see section 11			
	H314	Skin Corr. 1		
2.1.2	See section 16 for full text of H statements			
2.2	Label elements			
2.2.1	Labelling in accordance with EC Regulation No 1272/2008 (CLP/GHS)			
	Hazard pictogram		Signal word	DANGER
	Hazard statements			
	H314	Causes severe skin burns and eye damage		
	Precautionary statements			
	P260	Do not breathe dust/fume/gas/mist/vapours/spray		
	P264	Wash hands thoroughly after handling		
	P280	Wear protective gloves/protective clothing/eye protection/face protection		
	P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower		
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing		
	P310	Immediately call a POISON CENTER or doctor / physician		
	Supplemental Hazard information (EU):			
2.3	Other hazards			
	None known			

3	SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS							
3.2	Mixtures							
	Chemical characterisation	Solid bases plus additives – see section 16 The CLP classifications required in this section are related to that of the product supplied. To comply with the legislation the classification of the relevant ingredients of the product, as if they were present at 100%, must be outlined. Where ingredients are present in the product at very low concentrations the level of risk to the user is reduced, hence the reason that the classifications for the individual components and the product are different. NOTE: The classification of calcium hydroxide is that of a powdered/granular form. In Soda lime it is contained in a pellet and the probability of inhalation is negligible. Therefore, the classification of H335, STOT SE 3 which is applied to the powder/granular form of calcium hydroxide does not appear for Soda lime.						
	Chemical name	CAS-No	Index No.	REACH registration No.	EC no.	Classification according to Regulation (EC) No 1278/2008 (CLP)	% [weight]	SCL, M-factor, ATE
	Calcium Hydroxide	1305-62-0	No data	01-2119475151-45-0630	215-137-3	Skin Irrit. 2 H315 Eye Damage 1 H318 STOT SE 3 H335	>75%	No data
	Sodium Hydroxide	1310-73-2	011-002-00-6	01-2119457892-27-XXX	215-185-5	Skin Corr. 1; H314	<4%	No data

4	SECTION 4: FIRST AID MEASURES	
4.1	Description of measures	
	General notes	
	Following inhalation	Remove casualty to fresh air and provide warmth and rest. Seek medical attention
	Following skin contact	Clean areas of skin affected immediately with soap and plenty of water. Seek medical advice
	Following eye contact	Immediately wash out eye thoroughly with plenty of water until irritation subsides; consult an eye specialist/ophthalmologist
	Following ingestion	Unlikely route of exposure. But if product is swallowed, do not induce vomiting. Drink plenty of water and seek medical advice
	Self-protection of the first aider	If the atmosphere is dusty ensure that there is sufficient LEV or suitable respiratory protective equipment is used.
4.2	Most important symptoms and effects, both acute and delayed	If skin irritation occurs after washing, seek medical attention
4.3	Indication of any immediate medical attention and special treatment needed	Treatment as described above

5	SECTION 5: FIRE FIGHTING MEASURES	
5.1	Extinguishing media	Suitable extinguishing media: Product does not burn, Chemical powder, dry sand and if water is used collect contaminated water separately, must not be discharged into the drains. Unsuitable extinguishing media: carbon dioxide
5.2	Special hazards arising from the substance or mixture	Hazardous combustion products: Not determined
5.3	Advice for fire fighters	Self-contained breathing apparatus may be required

6	SECTION 6: ACCIDENTAL RELEASE MEASURES	
6.1	Personal precautions, protective equipment and emergency procedures	For non-emergency personnel: - Avoid dust formation - Use personal protective clothing For emergency responders: use breathing apparatus if exposed to vapours/dust/aerosol.
6.2	Environmental precautions	Collect contaminated water/firefighting water separately. Do not allow to get into wastewater or waterways; if this occurs, inform the relevant water authority at once

6.3	Methods and materials for containment and cleaning up	For containment: For cleaning up: In the event of spillage, take up mechanically (e.g., sweep or vacuum up) into tightly closed containers. Adhere to personal protective measures. Flush any remainder with water. Collect the split soda lime/ water into suitable labelled containers and dispose of as prescribed in section 13 Other information: None
6.4	Reference to other sections	See section 8 for personal protective equipment

7	SECTION 7: HANDLING AND STORAGE
7.1	Precautions for safe handling	Protective measures: Handle in accordance with good hygiene and safety practice with appropriate PPE. Avoid the raising and deposition of dust during filling, pouring or moving material. Treat gently to prevent the formation and deposition of dust. Ensure only alkali resistant materials are in contact with the soda lime Measures to prevent fire: the product is not combustible, avoid the formation of dust, adhere to general fire prevention measures Measures to prevent aerosol and dust generation: avoid generating dust by agitation. Measures to protect the environment: No data Advice on general occupational hygiene: No data
7.2	Conditions for safe storage, including any incompatibilities	Technical measures and storage: Keep in original containers away from acids. Packaging materials: No data Requirements for storage rooms and vessels: Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool (0-35°C) and dry, avoiding direct sunlight Storage class: - Further information on storage conditions: No data
7.3	Specific end use(s)	Recommendations: As an absorbing agent Industrial sector specific solutions: Medical/industrial carbon dioxide absorbent

8	SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION					
8.1	Workplace Exposure Limits (WELs) have been assigned by the HSE (EH40/2005)					
	STEL (15 mins)	ppm	2	mg/m³	Data for sodium hydroxide	
	LTEL (8-hour TWA)	ppm	5	mg/m³	Data for calcium hydroxide	
	LTEL (8-hour TWA)	No data	1	mg/m³	Respirable fraction of calcium hydroxide	
	STEL (15 mins)	No data	4	mg/m³	Respirable fraction of calcium hydroxide	

	Substance name	Calcium Hydroxide		
	EC number	215-137-3	CAS number	1305-62-0

	DNELs								
		Workers				Consumers			
	Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects
	Oral	Not required				No data	No hazard identified	No data	No hazard identified
	Inhalation	4 mg/m³	No hazard identified	1 mg/m³	No hazard identified	4 mg/m³	Inhalation	4 mg/m³	No hazard identified
	Dermal	Low hazard (No threshold derived)	No hazard identified	Low hazard (No threshold derived)	No hazard identified	Low hazard (No threshold derived)	Dermal	Low hazard (No threshold derived)	No hazard identified

	PNECs	
	Environmental protection target	PNEC
	Fresh water	0.49 mg/L
	Freshwater sediments	Insufficient data available (further information necessary)
	Marine water	0.32 mg/L
	Marine sediments	Insufficient data available (further information necessary)
	Food chain	No potential for bioaccumulation
	Microorganisms in sewage treatment	3 mg/L
	Soil (agriculture)	1080 mg/kg soil dw
	Air	No hazard identified

	Substance name	Sodium Hydroxide		
	EC number	215-185-5	CAS number	1310-73-2

	DNELs		
		Workers	Consumers

	Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects
	Oral	Not required				No data	High hazard (no threshold derived)	No data	High hazard (no threshold derived)
	Inhalation	No hazard identified	No hazard identified	1 mg/m³	No hazard identified	No hazard identified	Inhalation	No hazard identified	No hazard identified
	Dermal	High hazard (no threshold derived)	No hazard identified	High hazard (no threshold derived)	No hazard identified	High hazard (no threshold derived)	Dermal	High hazard (no threshold derived)	No hazard identified

	PNECs	
	Environmental protection target	PNEC
	Fresh water	No data (testing technically not feasible)
	Freshwater sediments	No data (testing technically not feasible)
	Marine water	No data (testing technically not feasible)
	Marine sediments	No data (testing technically not feasible)
	Food chain	No potential for bioaccumulation
	Microorganisms in sewage treatment	No data (testing technically not feasible)
	Soil (agriculture)	No data (testing technically not feasible)
	Air	No hazard identified

8.2	Exposure controls	
	Appropriate engineering controls	Substance/mixture related measures to prevent exposure during identified uses: Structural measures to prevent exposure: Provide adequate ventilation (e.g., local exhaust ventilation) Organisational measures to prevent exposure: No data Technical measures to prevent exposure: No data
	Personal protection equipment	Observe normal standards for handling chemicals Wash hands before breaks and after work Avoid inhalation of dust if raised Wear personal protective equipment appropriate to the task (see below)
	Eye and face protection	Safety goggles if risk of eye contamination; BS EN 166:2002
	Skin protection	Hand protection: Nitrile gloves PPE Cat. III according to (EU) regulation, 2016/425, thickness 0.15-0.12 mm, breakthrough time, 8 hours. Please also consider your own risk assessment, e.g., tasks undertaken Other skin protection: Protective overalls (alkali resistant)
	Respiratory protection	Approved dust mask or respirator (e.g., EN 149:2001 FFP3) for dust if ventilation is insufficient
	Thermal hazards	No data
	Environmental exposure controls	Substance/mixture related measures to prevent exposure: keep in tightly closed containers Instruction measures to prevent exposure: ensure that container is closed to prevent ingress of carbon dioxide or loss of moisture through the seal Organisational measures to prevent exposure: No data Technical measures to prevent exposure: No data

9	SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES			
9.1	Information on basic physical and chemical properties			
9.1	Physical state	Solid	Colour	White or coloured
	Odour	Odourless	pH	12-14
	Boiling pt. / range	Not determined	Melting point/freezing point	Not determined
	Flash point	Not applicable	Relative density	~ 0.9g/cm³
	Solubility	Slight	Odour threshold	Not applicable
	Evaporation rate	Not applicable	Flammability	Not applicable
	Lower and upper explosion limit	Not applicable	Vapour pressure	Not applicable
	Relative vapour density	Not applicable	Partition coeff. Log Poct /water	Not applicable
	Auto-ignition temperature	Not applicable	Kinematic viscosity	Not applicable
	Explosive properties	Not determined	Oxidising properties	Not determined
	Decomposition temperature	Not determined	Particle characteristics	Not determined
9.2	Other information	None known		

10	SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Heat is generated if exposed to acids
10.2	Chemical stability	Stable under normal conditions of handling
10.3	Possibility of hazardous reactions	Hazardous polymerisation will not occur
10.4	Conditions to avoid	Contact with air – formation of calcium and sodium carbonate Contact with acids-strong exothermic reaction with acids Contact with damp low density metals, base metals and aqueous metal solutions produces hydrogen Contact with Aluminium at high temperature
10.5	Incompatible material	Chloroform, trichloroethylene, damp low density/base metal, aqueous metal solutions and acids
10.6	Hazardous decomposition products	None

11	SECTION 11: TOXICOLOGICAL INFORMATION						
11.1	Information on hazard classes as defined in Regulation (EC) No 1272/2008						
	Hazard Class	Method	Species	Route of exposure	Effective dose	Exposure Time	Results
	Acute toxicity	LD (lo)	Rabbit	oral	500 mg/kg	No data	Data for sodium hydroxide
		LD_{50}	Rat	Oral	>7000 mg/kg	No data	Data for calcium hydroxide
		LC_{50}	Rat	Inhalation	> 6.04 mg/L air	No data	Data for calcium hydroxide
	Skin corrosion/irritation	LD_{50}	Rabbit	Dermal	> 2500 mg/kg	No data	data for calcium hydroxide
	Serious eye damage/irritation	No data	No data	No data	No data	No data	Found to be corrosive to skin and to the eye, data for sodium hydroxide
	Respiratory or skin sensitisation	No data	No data	No data	No data	No data	No data
	Germ cell mutagenicity	No data	No data	No data	No data	No data	No data
	Carcinogenicity	No data	No data	No data	No data	No data	No data
	Reproductive toxicity	No data	No data	No data	No data	No data	No data
	Summary of evaluation of the CMR properties	No data	No data	No data	No data	No data	No data
	STOT-single exposure	LD50	No data	No data	325 mg/kg bw	No data	No data
	STOT-repeated exposure	No data	No data	No data	No data	No data	No data
	Aspiration hazard	No data	No data	No data	No data	No data	No data
	Studies for sodium hydroxide in the registration dossier were assigned Klimisch 3 and regarded as unreliable.						
11.2	Information on other hazards	None					

12	SECTION 12: ECOLOGICAL INFORMATION	
12.1	Toxicity	
	Acute (short-term) toxicity	Fish: LC_{50} for *Oncorhynchus mykiss* = 50.6 mg/L for $Ca(OH)_2$ Crustacea: *LC_{50} for Daphnia magna* for $Na(OH)_2$ = 33.3 mg/l Algae/aquatic plants: No data Other organisms: No data
	Chronic (long-term) toxicity	Fish: No data Crustacea: No data Algae/aquatic plants: No data Other organisms: No data
12.2	Persistence and degradability	Abiotic Degradation: No data Physical- and photo-chemical elimination: No data Biodegradation: No data
12.3	Bio-accumulative potential	Partition coefficient n-octanol /water (log Kow): No data Bioconcentration factor (BCF): No data
12.4	Mobility in soil	Known or predicted distribution to environmental compartments: No data Surface tension: No data Adsorption/Desorption: No data
12.5	PBT/vPvB assessment	Not determined

12.6	Endocrine disrupting properties	Not determined
12.7	Other adverse effects	WGK (German Water Hazard class): 1

13	SECTION 13: DISPOSAL CONSIDERATIONS	
13.1	Waste treatment methods	
	Product/Packaging disposal	If possible, recycle to approved recycling company. If not (e.g., designated as waste), dispose of in accordance with national and local authority regulations, e.g. The Hazardous Waste (England & Wales) Regulations 2005. Treat empty containers in the same way as the product. If possible, wash out thoroughly and recycle. Waste codes/ waste designations according to LoW: No data
	Waste treatment-relevant information	No data
	Sewage disposal-relevant information	No data
	Other disposal recommendations	No data

14	SECTION 14: TRANSPORT INFORMATION				
14.1	UN number or ID number	*None	14.2	UN proper shipping name	*None
14.3	Transport hazard class(es)	*Exempt under special provision 62 & A16	14.4	Packing group	*None
14.5	Environmental hazards	The product should not be marked as a marine pollutant	14.6	Special precautions for user	*Exempt under special provision 62 & A16
14.7	Maritime transport in bulk according to IMO instruments	Not applicable			
14.8	*Special provision 62 in the transport regulations (IMDG Code/RID/ADR/ADN) applies to UN 1907. This special provision clearly states that soda lime is not considered to be dangerous goods for transport as the sodium hydroxide concentration is <4%.				
14.9	*This substance contains less than 4 % sodium hydroxide and is not subject to IATA under special provision A16				

15	SECTION 15: REGULATORY INFORMATION
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture
	The product is classified in accordance with EC Regulation 1272/2008 (CLP)
15.2	Chemical safety assessment
	No Chemical Safety Assessment has been carried out for this mixture by the supplier

16	SECTION 16: OTHER INFORMATION		
	Indication of changes	This SDS has been revised in accordance with EC Regulation 1272/2008 (CLP) and in response to a change in Annex II REACH regulations, June 2020. Classification change from Corr. 1B to Corr. 1 in accordance with CLP regulations table 3.2.4	
	Abbreviations and acronyms	None	
	Key literature references and sources for data	Other suppliers' safety data sheets, Annex VI of the CLP Regulation (EC) No 1272/2008, EH40 (2020) OECD 431, 2004 Testing of chemicals, in-vitro skin corrosion, human skin test model. ECHA website	
	Prepared by	Dr Patricia Wormald, Molecular Products, PW@molprod.com Neil Stearn, Cambridge Environmental Assessments; neil.stearn@cea-res.co.uk	
	Date of issue	30th January 2022	
	Classification according to Regulation (EC) Nr 1272/2008		Classification procedure
	Skin Corr. 1; H314		
	Relevant H statements (number and full text)	H314, Causes severe skin burns and eye damage H315, Causes skin irritation H318, Causes serious eye damage H335, May cause respiratory irritation	
	Training advice	None	
	Further information	Comply with COSHH Regulations This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific problems	