


Surrender

Section 1: Identification

Product name:	Surrender
Other names:	Benzalkonium Chloride 500g/L
Recommended use:	Biocide for the control of moss, lichen, liverwort and algae
Manufacturer/Importer details:	Agritrade 1 Robin Mann Place Christchurch Airport PO Box 292, Christchurch 8140
24 hour emergency contact:	Phone: 03 372 0890 0800 CHEMCALL (0800 243 622)
National Poisons Centre:	0800 POISON (0800 764 766)

Section 2: Hazard identification

HSNO Approval:	Product is classified as hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020 of the HSNO Act, 1996. HSR000822
Hazardous classification:	Acute oral toxicity Category 4, Acute dermal toxicity Category 4, Skin corrosion Category 1B, Serious eye damage Category 1, Hazardous to terrestrial vertebrates, Hazardous to the aquatic environment acute Category 1.
Pictograms:	
Signal word:	DANGER
Hazard statements:	H302 Harmful if swallowed. H312 Harmful in contact with skin H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H400 Very toxic to aquatic life. H432 Toxic to terrestrial vertebrates.
Prevention statements:	P102 Keep out of reach of children. P103 Read label before use. P260 Do not breathe vapours or spray mist. P264 Wash exposed skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment P280 Wear protective gloves, protective clothing and eye/face protection.
Response statements:	P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

	<p>P301 + P330 + P331 IF SWALLOWED: Rinse Mouth. Do NOT induce vomiting. P330 Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 P322 Specific measures (see section 4 of this SDS) P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing P310 Immediately call a Poison Centre or doctor. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P363 Wash contaminated clothing before reuse. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. P391 Collect spillage.</p>
Storage statement/s:	
Disposal statement/s:	P405 Store locked up.
Additional label requirements:	<p>P501 Dispose of product and containers in accordance with local Regulations. See section 13 for more details.</p> <p>Do not apply directly into or onto water Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.</p>

Section 3: Composition/information on ingredients

Chemical identity of ingredients with health or environmental hazards:

<i>Ingredient</i>	<i>CAS No.</i>	<i>Proportion w/w</i>
Benzalkonium Chloride	8001-54-5	50 - 51
Other ingredients	Proprietary	<1
Water	7732-18-5	Balance

Section 4: First-aid measures

First aid measures:	For advice contact National Poisons Centre (phone New Zealand 0800 764 766) or a doctor. Have product label or Safety Data Sheet at hand.
Inhalation:	Remove patient to fresh air and keep at rest in a position comfortable for breathing. Get medical advice if person feels unwell. If experiencing respiratory symptoms contact a Poisons Centre or doctor immediately.
Ingestion:	Rinse mouth with water. Do NOT induce vomiting. Call a Poison Centre or doctor if person feels unwell.
Skin contact:	Immediately take off contaminated clothing and flush skin and hair with running water. Immediately call a Poison Centre or doctor.
Eye contact:	Hold eyelids apart and rinse the eye cautiously for at least 15 minutes. Remove contact lenses, if present and easy to do, continue rinsing. Immediately contact a Poisons Centre or doctor for advice.
First aid facilities:	Provide eye baths and safety showers close to areas where product contact or splashing may occur.

Surrender



Advice to doctor:	Treat symptomatically.
Section 5: Fire-fighting measures	
Flammability:	Non-flammable.
Appropriate extinguishing media:	Dry chemical, water spray (fog), foam or carbon dioxide.
Combustion products:	Oxides of carbon and nitrogen.
Special protective equipment and precautions for fire-fighters:	Self-contained breathing apparatus required. Addition of water may cause excessive foaming. Vapours may be toxic. Do not allow contaminated runoff to enter drains or waterways.
HAZCHEM code:	2X
Section 6: Accidental release measures	
Personal precautions:	Use appropriate protective equipment as listed in section 8. Spills may be slippery and should be cleared up immediately.
Environmental precautions:	This substance is very toxic to aquatic life. Avoid contamination of any waterway, drain or water supply with the substance or empty container. Notify local authority if contamination of any waterway.
Procedure for clean up:	Clear area of unnecessary personnel. Large spill: Contain and then pump as much as possible to an appropriate, labelled salvage container. Absorb the remaining liquid with clay granules, sand, or other absorbent material and sweep to a waste container. Cover the spill area with water and absorb. Prevent runoff into water ways or drains. Collect spilt product and contaminated materials for disposal to an approved hazardous landfill or waste collection facility.
Section 7: Handling and storage	
Safe handling:	Read label before use. When mixing or applying wear protective clothing; waterproof gloves, overalls, rubber boots, and eye protection. Do not eat, drink or smoke while using. Wash splashes off exposed skin or out of eyes immediately. Wash hands and face thoroughly after handling and before rest or meal breaks.
Safe storage:	Keep out of reach of children. Store in original container, tightly closed and in a locked, dry, cool, well-ventilated area away from foodstuffs, feeds, seeds, fertilisers, insecticides, or fungicides used for the protection of crops.
Section 8: Exposure controls/personal protection	
Occupational exposure limits:	No WES values are set for Benzalkonium chloride as of 12 th edition of WES values published by WorkSafe November 2020.
Biological limit value:	No Biological Index values have been set as of the 12 th edition of WES and BEI values published by WorkSafe in November 2020.
Engineering controls:	Not normally required for product being used outdoors and in well-ventilated areas. General (mechanical) room ventilation is considered satisfactory.

Surrender

Respiratory protection:	Air respirator with organic vapour canister or self-contained breathing apparatus when exposed to vapours from heated material.
Hand protection:	Impervious gloves, e.g. nitrile, PVC.
Eye protection:	Chemical goggles or face shield where splashes may occur.
Skin protection:	Waterproof hat, coat and trousers (worn outside rubber boots). The use of a skin barrier cream is useful to give additional skin protection.
General hygiene:	Do not eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.
Personal Protection:	Further information on specific types of personal protective gear and related standards is available in Section 16.
Section 9: Physical and chemical properties	
(a) Appearance:	Clear to light straw-coloured liquid.
(b) Odour:	Amine.
(c) Odour threshold:	No data available.
(d) pH:	6.8-7.8
(e) Melting point/freezing point:	No data available.
(f) Initial boiling point and boiling range:	>100°C
(g) Flash point:	>100°C
(h) Flammability (solid, gas):	Not applicable.
(i) Upper/lower flammability or explosive limits:	Not applicable.
(j) Vapour pressure:	No data available.
(k) Vapour density:	No data available.
(l) Relative density:	0.984 g/ml
(m) Solubility (ies):	Soluble in water
(n) Partition coefficient n-octanol/water:	No data available.
(o) Auto-ignition temperature:	No data available.
(p) Decomposition temperature:	No data available.
(q) Kinematic viscosity:	No data available.
(r) Particle characteristics	Not applicable.
Section 10: Stability and reactivity	
Stability of the substance:	Stable under normal conditions of storage and use.
Conditions to avoid:	None determined.
Incompatible materials:	None determined.

Surrender



Hazardous decomposition products:	None determined.
Section 11: Toxicological information	
(i) Acute toxicity:	Toxicity classifications determined by assessment of the components in the formulated mixture. Harmful if swallowed or if absorbed through skin.
(ii) Aspiration hazard:	Not classified as aspirant hazard.
(iii) Respiratory irritation:	Not classified as respiratory irritant.
(iv) Skin corrosion / irritation:	Corrosive to skin.
(v) Serious eye damage / irritation:	Corrosive to eyes.
(vi) Respiratory or skin sensitisation:	Not classified as a sensitiser.
(vii) Germ cell mutagenicity:	Not classified as mutagenic.
(viii) Carcinogenicity:	Not classified as carcinogenic.
(ix) Reproductive toxicity:	Not classified as a reproductive toxicant.
(x) Specific organ toxicity:	May cause damage to target organs or systems
(xi) Narcotic effects:	Not classified
Toxicological information for benzalkonium chloride (active):	<p>Acutely toxic - oral LD50 (mouse): 150mg/kg Acutely toxic – dermal LD50 (rat): 1420mg/kg Respiratory sensitiser: In acute cases pulmonary oedema resulting from aspiration, dyspnea and cyanosis due to paralysis of the respiratory muscles, bronchoconstriction, cough can occur.</p> <p>Specific organ toxicity - Blood and the Hematopoietic system. Repeated dermal applications of benzalkonium chloride or C14-C16 benzalkonium at doses of 10 mg/kg bw or more 5 times/weeks for 3 months to rats caused changes in blood cellular parameters, liver and kidney, increased body temperature and increased weight of adrenals, kidney and testes.</p> <p>Corrosive to skin: Concentrated solutions can produce corrosive skin lesions with deep necrosis & scarring. Caution is advisable when irrigating body cavities as systemic absorption may cause muscle weakness.</p> <p>Corrosive to eyes: Eye exposure may result in mild discomfort (0.1% solution) to very serious corneal damage (10% solution) depending on the agent and the concentration. High concentrations of benzalkonium chloride can cause ocular toxicity in human eyes.</p>
Section 12: Ecological information	
Ecotoxicological classifications determined by assessment of the components in the formulated mixture.	

Surrender

(a) Aquatic toxicity:	Very toxic to aquatic life.
(b) Soil environment:	Not classified for soil ecotoxicity.
(c) Terrestrial vertebrate toxicity:	Toxic to terrestrial vertebrates.
(d) Terrestrial invertebrate toxicity:	Not classified.
(e) Persistence and degradability:	Benzalkonium is rapidly degraded.
(f) Potential to be bioaccumulative:	Benzalkonium is not bioaccumulative.
(g) Mobility in soil:	No data available.
Ecotoxicological information for benzalkonium chloride (active):	Fathead minnow LC50 (96 hour): 0.28 mg/l <i>Daphnia magna</i> EC50 (48 hour): 0.0059 mg/l Green algae EC50 (72 hour): 0.08 mg/l
Section 13: Disposal considerations	
Product disposal:	Dispose of this product only by using according to the label or through Agrecovery chemical disposal or similar approved service or to an approved landfill.
Container disposal:	Triple rinse empty container adding rinsate to the spray tank. Recycle through Agrecovery if possible or appropriate recycling facility. Alternatively, crush and bury in an approved landfill. Do not use container for any other purpose. Avoid contamination of any water supply or stream with product or empty container.
Section 14: Transport information	
UN number:	1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S (contains Benzalkonium chloride 50%)
UN class:	8
Sub-class:	
Packing group:	III
HAZCHEM:	2X
Marine Pollutant:	Yes
Special precautions:	-
	This product is classified as a Dangerous Good. Consult the Land Transport Rule: Dangerous Goods 2005 and NZS 5433:2012 Transport of Dangerous Goods on Land for more information.
Section 15: Regulatory information	
HSNO:	Approved substance under the HSNO Act 1996.
HSNO approval number:	HSR000822: Soluble concentrate containing 500 g/litre benzalkonium chloride
Tolerable exposure limit / environmental exposure limit:	None set at time of SDS preparation.

Surrender



HSNO controls:	See www.epa.govt.nz and www.worksafe.govt.nz .
Safety Data Sheet:	Any quantity
Restricted to workplace only:	No
Quantity that requires management in accordance with HSW HS Regulations:	1000 L
Quantity for secondary containment and emergency response plan:	100 L
Quantity for signage:	100 L
Certified Handler:	No
Qualified Handler:	Yes
Amount to be secured when unattended:	-
Location Certificate:	250 L
Fire extinguishers:	-
Tracking:	No
Records of application:	Yes (3 L of more applied in place within 24 hr) in area where it is likely to enter air or water and leave the application area.

Additional controls: The substance must not be applied onto or into water.

ACVM: Registered under the Agricultural Compounds Veterinary Medicines Act 1997.

ACVM registration number: P004649

Conditions of registration: See www.foodsafety.govt.nz

Section 16: Other information

Date of issue:	26 August 2021
Reason for reissue:	Hazard classifications changed to GHS descriptions implemented 1 May 2021 and additional HSNO Control information; change in UN number for transport.
Replaces:	SDS issued 13 August 2020
Information references:	Supplier Safety Data Sheet NZ EPA Approved hazardous substances with controls Workplace Exposure Standards and Biological Exposure Indices. HSNO HS Notices.
Abbreviations:	ACVM: Agricultural Chemicals and Veterinary Medicines Group HSNO: Hazardous substances and New Organisms Act 1996 (HSNO Act) EPA: Environmental Protection Authority of New Zealand CAS Number: Chemical Abstracts Service Number LD50: Lethal Dose 50% (Population) LC50: Lethal Concentration 50% (Population) WES-TWA: Workplace exposure standards – Time-weighted average WES-STEL: Workplace exposure standards – Short-term exposure limit

Surrender

Personal Protection
Standards:

The following Standards provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**

The data provided in this safety data sheet is based on current knowledge and experience. The purpose of this document is to describe the product in terms of its safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.