1. IDENTIFICATION OF THE MATERIAL AND THE MANUFACTURER

Product Name	**ARANDELL SURFACE SANITISER 500ml** Fragrances: Fragrance Free		
Statement of Hazard Nature	Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances, New Organisms legislation Classified as a Dangerous Good for transport purposes		
Proper Shipping Name	**AEROSOLS**		
Supplier Name	Arandee Ltd		
Address	108 Rockfield Road, Penrose, Auckland 1061, New Zealand		
Telephone	+64 (9) 579 5139		
Emergency	National Poisons Centre -24 hours	Australia New Zealand	13 11 26 0800 POISON 0800 764 766
E-mail	sales@arandee.co.nz		
Web Site	http://www.arandee.co.nz		
Synonym(s)	MAC Arandell; MAC Arandell Surface Sanitiser		
Use(s)	A powerful surface sanitiser that leaves surfaces hygienically clean (kills up to 99.9% of common germs & viruses). The unique formulation disinfects and conditions surfaces. Suitable for use on hard or soft surfaces. Designed for use in commercial and industrial settings, public health and government institutions		
Approval(s)	Ministry of Primary Industries Approved C43 (all animal products including dairy) AsureQuality Approved food/beverages/dairy		

2. HAZARDS IDENTIFICATION

AEROSOL - CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA IN THE HS (MIN DEG OF HAZ) REGS 2001 CLASSIFIED AS A DANGEROUS GOOD, UNDER ADG AND NZS 5433

UN Number	**1950**		**Dangerous Goods Risks**
DG Class	**2.1.2A**	**2Y**	Contains gas under pressure; may explode if heated Contains refrigerated gas; may cause cryogenic burns or injury.
HAZARD STATEMENT		223	Flammable aerosols
PRECAUTIONARY STATEMENTS		P210	Keep away from heat/sparks/open flame/hot surfaces
		P211	Do not spray on an open flame, or other ignition source.
		P251	Pressurized container. Do not pierce or burn even after use
		P403	Store in a well ventilated place.
		P410	Protect from direct sunlight
		P412	Do not expose to temperatures exceeding 50^0C/122^0F

3. HAZARDS IDENTIFICATION COMPOSITION OF INGREDIENTS

Ingredient	Formula	Concentration %	CAS Number
Ethanol Denatured SDA3A		70-75	64-17-5
Other non hazardous		1-5	63148-52-7
Hydrocarbon Propellant Blend		25-30	106-97-8

4. FIRST AID MEASURES

Eye Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information Centre, a doctor, or for at least 15 minutes. Keep patient calm.

Inhalation Leave area of exposure immediately. If irritation persists, seek medical attention.

Skin Gently flush affected areas with water. Seek medical attention, if irritation persists.

Ingestion For advice, contact a Poisons Information Centre on 0800 764 766 (0800 POISON) or +64 9 579 5139 (New Zealand) or a doctor. If swallowed, DO NOT induce vomiting, as ingestion is considered unlikely, due to the product form.

Advice to Doctor Treat symptomatically.

First Aid Facilities Eye wash facilities should be provided.

5. FIRE FIGHTING MEASURES

Flammability Highly flammable. Vapours may form explosive mixtures with air. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures. When handling a significant spillage, eliminate all ignition sources, including cigarettes, open flames, spark producing switches, heaters, naked lights, mobile phones, etc. Aerosol cans may explode when heated above 50 ºC.

Special Exposure Hazards Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous Thermal Decomposition Products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special Protective Equipment for Fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire and Explosion Highly flammable, explosive vapour. Evacuate area and contact emergency services. Toxic gases may evolve, when heated. Remain upwind and notify those downwind of hazard. Wear

	full protective equipment, including Self Contained Breathing Apparatus (SCBA), when combating fire. Use waterfog to cool intact containers and nearby storage areas.
Extinguishing	Dry agent, carbon dioxide foam, or water fog. Prevent contamination of drains or waterways; absorb runoff with sand or similar.
HazChem	2YE

6. ACCIDENTAL RELEASE MEASURES

Small Spill	Stop leak without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
Large Spill	If large quantities of cans are punctured (bulk), clear area of all unprotected personnel and ventilate area. Wear splash-proof goggles, leather gloves, coveralls, and boots. Where inhalation risks exist, wear a Type A-Class P1 (Organic vapour and Particulate) respirator. Collect cans and allow to discharge outdoors. Absorb any residues with sand or similar and place in clean containers for disposal. DO NOT wash away into sewer.

7. HANDLING AND STORAGE

Handling	Use safe work practices to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Keep out of the reach of children. DO NOT puncture aerosol cans or incinerate, even when empty.
Storage	Store in a cool, dry well ventilated area, well away from oxidising agents, acids, alkalis, direct sunlight, heat or ignition sources, or foodstuffs. Ensure containers are adequately labelled, protected from physical damage, and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Australia

Ingredient Name	**Exposure Limits**
Ethanol	**Safe Work Australia (Australia, 8/2005)**
	TWA: 1880 mg/m³ 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
Propane	**ACGIH TLV (United States, 2/2010)**
	TWA: 1000 ppm 8 hour(s).
Butane	**Safe Work Australia (Australia, 8/2005).**
	TWA: 1900 mg/m³ 8 hour(s).
	TWA: 800 ppm 8 hour(s).

New Zealand

Ingredient Name	Exposure Limits
Ethanol	**NZ OSH (New Zealand, 12/2010)**
	WES-TWA: 1000 ppm 8 hour(s).
	WES-TWA: 1880 mg/m³ 8 hour(s).
Propane	**ACGIH TLV (United States, 2/2010).**
	TWA: 1000 ppm 8 hour(s).
Butane	**NZ OSH (New Zealand, 12/2010).**
	WES-TWA: 800 ppm 8 hour(s).
	WES-TWA: 1990 mg/m³ 8 hour(s).

Ventilation

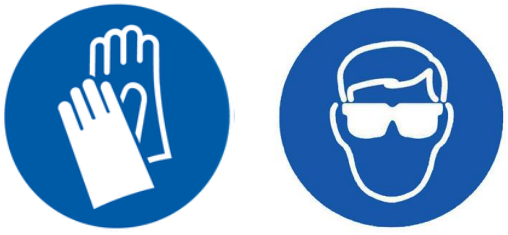
DO NOT directly inhale concentrated vapours. Use in well-ventilated areas. Mechanical extraction ventilation is recommended for poorly ventilated area. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

Exposure Standards

LIQUIFIED PETROLEUM GAS (LPG) (68476-85-7)
ES-STEL: 400 ppm (1800 mg/m³)

Personal Protection Equipment

No personal protective equipment is required, normally. When an inhalation risk exists wear a Type A-Class P1 (Organic vapour and Particulate) Respirator. With prolonged use, wear PVC or rubber gloves and splash-proof goggles or safety glasses.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS AEROSOL GAS	**Solubility (water)**	DISPERSABLE
Odour	SLIGHT, ETHEREAL-LIKE ODOUR	**Specific Gravity**	0.80 - 0.82
pH	NOT AVAILABLE	**% Volatiles**	100 %
Vapour Pressure	213.7 kPa (1602.88 mm Hg) [20°C]	**Flammability**	HIGHLY FLAMMABLE
Vapour Density	<1 (Air = 1)	**Flash Point**	Closed cup: -60°C (-76°F)
Melting Point	NOT AVAILABLE	**Upper Explosion Limit**	NOT AVAILABLE
Boiling Point	<35°C (<95°F)	**Lower Explosion Limit**	NOT AVAILABLE
Evaporation Rate	NOT AVAILABLE	**Auto-ignition Temperature**	NOT AVAILABLE

Density 0.845 g/cm³ [25°C (77°F)]

10. STABILITY AND REACTIVITY

Reactivity Incompatible with oxidising agents (e.g. hypochlorite), alkalis, / alkali earth metals and finely divided metal powders (e.g. aluminium, barium, lithium), heat and ignition sources.

Decomposition Products May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product/Ingredient Name	Result	Species	Dose	Exposure
Ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m³	4 hours
	LD50 Oral	Rat	7 g/kg	-
Butane	LC50 Inhalation Vapour	Rat	658000 mg/m³	4 hours

Irritation/Corrosion

Product/Ingredient Name	Result	Species	Score	Exposure	Observation
Ethanol	Eyes – Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Skin – Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Health Hazard Summary General population. The exposure of the general population is expected to be low and is not likely to present a hazard when it is used as recommended.
Occupational exposure. With reasonable work practices, hygiene measures and Safety precautions, is unlikely to be an occupational hazard.
Asphyxiant narcotic. This product may only present a hazard with direct eye contact, prolonged and repeated skin contact or with vapour/gas inhalation at high levels.

Eye Low irritant. Contact may result in lacrimation, pain, redness, and conjunctivitis. Prolonged contact may result in corneal burns, with possible permanent damage.

Inhalation Low to moderate Irritant, narcotic, asphyxiant. Over exposure may result in upper respiratory tract irritation, nausea, and headache. At high levels; dizziness, breathing difficulties, and at very high levels, anaesthesia, cardiac arrhythmias, pulmonary oedema and unconsciousness.

Skin Low irritant. Prolonged contact may result in irritation, redness, rash, dermatitis, and sensitisation.

Ingestion Exposure considered unlikely, due to product form as an aerosol. Under normal conditions of use, ingestion is considered a highly unlikely, exposure route.

12. ECOLOGICAL INFORMATION

Ecotoxicity No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ Ingredient Name	Result	Species	Exposure
Ethanol	Acute EC50 17.921 mg/L Marine water Acute EC50 2000 ug/L Fresh water Acute LC50 25500 ug/L Marine water Acute LC50 42000 ug/L Fresh water Chronic NOEC 0.375 ul/L Fresh water	Algae – Ulva pertusa Daphina – Daphnia magna Crustaceans – Artemia Franchiscana – Larvae Fish – Oncorhynchus mykiss Fish – Gambusia holbrooki – Larvae – 3 days	96 hours 48 hours 48 hours 4 days 12 weeks

Other ecological information

Product/ Ingredient Name	LogP ow	BCF	Potential
Ethanol	-0.32	-	low
Propane	2.36	-	low
Butane	2.89	-	low

Other adverse effects No known significant effects or critical hazards.

Environment Environmental effects of the compound are extremely unlikely, due to packaging in the form of an aerosol. Ensure appropriate measures are taken to prevent this product from entering the environment through wastewater.

13. DISPOSAL CONSIDERATIONS

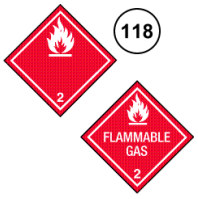
Waste Disposal For small amounts, absorb contents with sand or similar and dispose of to an approved landfill site. DO NOT puncture or incinerate aerosol cans. Contact the manufacturer for additional information.

Legislation Dispose of in accordance with relevant, local legislation.

14. TRANSPORT INFORMATION

	Shipping Name	UN No	Packing Group	DG Class	Subsidiary Risk(s)	EPG	Hazchem
Land	Compressed Gas Flammable Aerosol	1950	None Allocated	2.1	None Allocated	2C1	2YE
Sea	Compressed Gas Flammable Aerosol	1950	III	2.1	None Allocated	2C1	2YE

Shipping Label



15. REGULATORY INFORMATION

Standard for the Uniform Scheduling of Medicines and Poisons

Australia inventory (AICS)	All components are listed or exempted
New Zealand Inventory of Chemicals (NZIoC)	All components are listed or exempted
HSNO Group Standard	Aerosols Flammable
Approved Handler Requirement	HSR002515
HSNO Approval Number	No
Tracking Requirement	No

16. OTHER INFORMATION

Additional Information

ASPHYXIANTS (1): reduce the oxygen concentration by displacement, when present in the atmospheres, in high concentrations. As most simple asphyxiants are odourless, atmospheres deficient in oxygen do not provide adequate sensory warning of danger. Therefore, it is not generally appropriate to recommend an exposure standard for each asphyxiant, but instead warn of the need to maintain oxygen concentrations.

Some asphyxiants may be given an exposure standard, due to their potential for narcotic effects at high concentrations, or an explosion hazard.

Asphyxiants (2)

There is a significant hazard associated with workers entering poorly, ventilated areas (e.g. tanks) where oxygen levels may be deficient. An air supplied breathing apparatus may be required if adequate ventilation is not ensured. Refer to AS/NZS 2865 - Safe Working in a Confined Space.

Respirators

In general, the best practice to avoid exposure is to use engineering controls, such as adequate ventilation, rather than the use of respirators (which should be limited).
If respiratory equipment must be worn, ensure correct respirator selection and training is undertaken. Some respirators may be extremely uncomfortable, when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

Abbreviations

Mg/m3 - Milligrams per cubic metre
ppm –Parts Per Million
M - moles per litre, a unit of measure of concentration.
pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 – 14, where 0 is highly acidic and 14 is highly alkaline.
TWA/ES - Time Weighted Average or Exposure Standard.
CAS# - Chemical Abstract Service number - uniquely identifies chemical compounds.
CNS - Central Nervous System
NOS - Not Otherwise Specified
IARC - International Agency for Research on Cancer.

Personal Protective Equipment

The recommendations for protective equipment contained within this SDS report are provided as a guide only, when dealing with an abnormal situation. Factors such as method of application, working environment, quantity used, product concentration and the availability of

	engineering controls should be considered, before the final selection of personal protective equipment is made.
Health Effects From Exposure	It should be noted that the effects from excess exposure to this product would depend on several factors, including duration of exposure, quantity involved, effectiveness of control measures used; protective equipment and method of application. Given that, it is impractical to prepare a SDS report, which would encompass all possible scenarios, it is anticipated that users will assess the risks in an emergency and apply appropriate control methods.
Report Status	This report is based upon information provided by ingredient manufacturers, and third party experts. We believe that the information represents the current state of knowledge about safety and handling precautions that are appropriate for this product. Further clarification regarding any aspect of the product should be obtained directly from the Chief Chemist at Arandee Ltd.
Disclaimer	While Arandee has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy, or completeness. As far as lawfully possible, Arandee accepts no liability for any loss, injury, or damage (including consequential loss) which may be suffered, or incurred by any person, because of their reliance upon the information contained in this Safety Data Sheet. To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any ability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.