



JTC IMPORT/EXPORT P/L

Personal Care - Dandruff Shampoo - Daily Clean

JTC Import Export Pty Ltd

Chemwatch: 7963-87

Version No: 2.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 3

Initial Date: 23/06/2025

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Print Date: 24/06/2025

S.GHS.AUS.EN

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

Product Identifier

Product name	Personal Care - Dandruff Shampoo - Daily Clean
Chemical Name	Not Applicable
Synonyms	Not Available
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	For personal care in occupational settings. Use according to manufacturer's directions. SDS are intended for use in the workplace ONLY. For domestic-use products, refer to consumer labels.
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Details of the manufacturer or importer of the safety data sheet

Registered company name	JTC Import Export Pty Ltd
Address	98-126 South Park Drive Dandenong South VIC 3175 Australia
Telephone	+61 3 9532 5100
Fax	+61 3 9532 6102
Website	https://www.jtcimportexport.com.au
Email	sales@jtcimportexport.com.au

Emergency telephone number

Association / Organisation	JTC Import Export Pty Ltd	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone number(s)	+61 3 9532 5100 (Mon-Thurs 8.30am to 5.30pm; Friday 8.30am to 3pm)	+61 1800 951 288 (ID#: 7963-87)
Other emergency telephone number(s)	Not Available	+61 3 9573 3188

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification ^[1]	Non hazardous
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

CAS No	%[weight]	Name
68891-38-3	8-13	sodium lauryl ether sulfate
61789-40-0	4-7	cocamidopropylbetaine
7647-14-5	2-3	sodium chloride
627-83-8	0.5-<1.5	glycol distearate
68140-00-1	0.5-<1.5	coconut oil monoethanolamide
68213-23-0	0.5-<1.5	alcohols C12-18 ethoxylated
68333-82-4	0.5-<1.5	coconut monoisopropanolamide
68439-50-9	0.5-<1.5	alcohols C12-14 ethoxylated
31069-81-5	0.5-<1.5	ethyl acrylate/ butyl acrylate/ methacrylic acid polymer
25085-34-1	0.5-<0.7	styrene/ acrylic acid copolymer
141464-42-8	0.5-<0.7	decyl D-glucoside
13463-41-7	0.5-0.7	zinc pyrithione
7446-19-7	0.4-0.6	zinc sulfate
1310-73-2	0.35-0.5	sodium hydroxide
Not Available	0.25-0.35	fragrance
63148-62-9	0.15-0.3	polydimethylsiloxane
68610-92-4	0.1-0.2	Polyquaternium-10
100-51-6	0.05-0.12	benzyl alcohol
26172-55-4	0.05-0.12	5-chloro-2-methyl-4-isothiazolin-3-one
64-02-8	<0.1	EDTA tetrasodium salt
7732-18-5	>60	water
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 First aid measures

Eye Contact	If this product comes in contact with the eyes: ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	Discontinue use if irritation occurs
Inhalation	▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider:

- ▶ foam.
- ▶ dry chemical powder.
- ▶ carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Advice for firefighters

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves in the event of a fire. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use fire fighting procedures suitable for surrounding area. ▶ DO NOT approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location. ▶ If safe to do so, remove containers from path of fire. ▶ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	The emulsion is not combustible under normal conditions. However, it will break down under fire conditions and the hydrocarbon component will burn. Decomposes on heating and produces toxic fumes of: - carbon dioxide (CO2) - nitrogen oxides (NOx) - sulfur oxides (SOx) - silicon dioxide (SiO2) - metal oxides - other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.
HAZCHEM	Not Applicable

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal. Slippery when spilt.
Major Spills	▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Stop leak if safe to do so. ▶ Contain spill with sand, earth or vermiculite. ▶ Collect recoverable product into labelled containers for recycling. ▶ Neutralise/decontaminate residue (see Section 13 for specific agent). ▶ Collect solid residues and seal in labelled drums for disposal. ▶ Wash area and prevent runoff into drains. ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▶ If contamination of drains or waterways occurs, advise emergency services. Slippery when spilt.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	No special equipment needed when handling small quantities. OTHERWISE: ▶ Overalls. ▶ Barrier cream. ▶ Eyewash unit.
Other information	▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	▶ Glass container is suitable for laboratory quantities ▶ Polyethylene or polypropylene container. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	▶ Avoid strong acids, bases.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

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INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	sodium hydroxide	Sodium hydroxide	Not Available	Not Available	2 mg/m3	Not Available

Ingredient	Original IDLH	Revised IDLH
sodium lauryl ether sulfate	Not Available	Not Available
cocamidopropylbetaine	Not Available	Not Available
sodium chloride	Not Available	Not Available
glycol distearate	Not Available	Not Available
coconut oil monoethanolamide	Not Available	Not Available
alcohols C12-18 ethoxylated	Not Available	Not Available
coconut monoisopropanolamide	Not Available	Not Available
alcohols C12-14 ethoxylated	Not Available	Not Available
ethyl acrylate/ butyl acrylate/ methacrylic acid polymer	Not Available	Not Available
styrene/ acrylic acid copolymer	Not Available	Not Available
decyl D-glucoside	Not Available	Not Available
zinc pyrithione	Not Available	Not Available
zinc sulfate	Not Available	Not Available
sodium hydroxide	10 mg/m3	Not Available
polydimethylsiloxane	Not Available	Not Available
Polyquaternium-10	Not Available	Not Available
benzyl alcohol	Not Available	Not Available
5-chloro-2-methyl-4-isothiazolin-3-one	Not Available	Not Available
EDTA tetrasodium salt	Not Available	Not Available
water	Not Available	Not Available

Exposure controls

Appropriate engineering controls	None under normal operating conditions.
Individual protection measures, such as personal protective equipment	
Eye and face protection	No special equipment for minor exposure i.e. when handling small quantities. OTHERWISE: ▶ Safety glasses with side shields. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	No special equipment needed when handling small quantities. OTHERWISE: Wear chemical protective gloves, e.g. PVC.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. OTHERWISE: ▶ Overalls. ▶ Barrier cream. ▶ Eyewash unit.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: **"Forsberg Clothing Performance Index"**.
The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:
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Material	CPI
BUTYL	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C

Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	AK-AUS / Class1 P2	-
up to 50	1000	-	AK-AUS / Class 1 P2
up to 50	5000	Airline *	-

NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/CHLOROBUTYL	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

up to 100	5000	-	AK-2 P2
up to 100	10000	-	AK-3 P2
100+			Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Coloured liquid with characteristic odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	7.3-7.8	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	Based on available data, the classification criteria are not met.
c) Serious Eye Damage/Irritation	Based on available data, the classification criteria are not met.

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d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.	
e) Mutagenicity	Based on available data, the classification criteria are not met.	
f) Carcinogenicity	Based on available data, the classification criteria are not met.	
g) Reproductivity	Based on available data, the classification criteria are not met.	
h) STOT - Single Exposure	Based on available data, the classification criteria are not met.	
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.	
j) Aspiration Hazard	Based on available data, the classification criteria are not met.	
Inhaled	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product	
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.	
Skin Contact	Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.	
Eye	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.	
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.	
Personal Care - Dandruff Shampoo - Daily Clean	TOXICITY	IRRITATION
	Not Available	Not Available
sodium lauryl ether sulfate	TOXICITY	IRRITATION
	Oral (Rat) LD50: 1600 mg/kg ^[2]	Eye (Rodent - rabbit): 100uL/24H - Severe
		Eye (Rodent - rabbit): 20mg/24H - Moderate
		Eye: adverse effect observed (irreversible damage) ^[1]
		Eye: adverse effect observed (irritating) ^[1]
		Skin (Rodent - guinea pig): 5%/9H (intermittent)
		Skin (Rodent - rabbit): 25mg/24H - Moderate
		Skin (Rodent - rabbit): 500mg/24H - Severe
		Skin: adverse effect observed (irritating) ^[1]
cocamidopropylbetaine	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (Rodent - rabbit): 100uL/24H - Severe
	Oral (Rat) LD50: 2700 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]
		Eye: adverse effect observed (irritating) ^[1]
		Skin: adverse effect observed (irritating) ^[1]
sodium chloride	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >10000 mg/kg ^[1]	Eye (Rodent - rabbit): 100mg/24H - Moderate
	Inhalation (Rat) LC50: >10.5 mg/l4h ^[1]	Eye (Rodent - rabbit): 10mg - Moderate
	Oral (Rat) LD50: 3000 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
		Skin (Rodent - rabbit): 500mg/24H - Mild
glycol distearate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Mouse) LD50: >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
coconut oil monoethanolamide	TOXICITY	IRRITATION
	Oral (Rat) LD50: >3125 mg/kg ^[2]	Eye (Rodent - mouse): 10mmol/L/1M Eye (Rodent - rabbit): 40mmol/L/1M
alcohols C12-18 ethoxylated	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3000 mg/kg ^[1]	Eye (Rodent - rabbit): 100mg - Severe
	Inhalation (Rat) LC50: >1.6 mg/l4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >5050 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]

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coconut monoisopropanolamide	TOXICITY	IRRITATION
	Oral (Rat) LD50: 2500 mg/kg ^[2]	Not Available
alcohols C12-14 ethoxylated	TOXICITY	IRRITATION
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
ethyl acrylate/ butyl acrylate/ methacrylic acid polymer	TOXICITY	IRRITATION
	Not Available	Not Available
styrene/ acrylic acid copolymer	TOXICITY	IRRITATION
	Not Available	Not Available
decyl D-glucoside	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	
zinc pyrithione	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 100 mg/kg ^[2]	Eye (Rodent - rabbit): 1mg/48H
	Inhalation (Rat) LC50: 0.14 mg/L4h ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Mouse) LD50; 160 mg/kg ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
zinc sulfate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (Rodent - rabbit): 420ug - Moderate
	Oral (Mouse) LD50; 200 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
sodium hydroxide	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 1350 mg/kg ^[2]	Eye (Primate - monkey): 1%/24H - Severe
	Oral (Rabbit) LD50; 325 mg/kg ^[1]	Eye (Rodent - rabbit): 1% - Severe
		Eye (Rodent - rabbit): 100mg
		Eye (Rodent - rabbit): 1mg/24H - Severe
		Eye (Rodent - rabbit): 1mg/30S - Severe
		Eye (Rodent - rabbit): 400ug - Mild
		Eye (Rodent - rabbit): 50ug/24H - Severe
		Eye: adverse effect observed (irritating) ^[1]
		Skin (Human): 0.15%/96H
		Skin (Human): 2%/24H - Mild
		Skin (Human): 2.50%/24H
polydimethylsiloxane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3000 mg/kg ^[2]	Eye (Rodent - rabbit): 100mg/1H - Mild
	Oral (Rat) LD50: >35000 mg/kg ^[2]	Eye (Rodent - rabbit): 100uL/24H - Mild
		Eye (Rodent - rabbit): 100uL/24H - Moderate
Polyquaternium-10	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1000 mg/kg ^[2]	Skin (Rodent - rabbit): 500mg - Mild
	Dermal (rabbit) LD50: >1000 mg/kg ^[2]	Skin (Rodent - rabbit): 500mg - Mild
	Dermal (rabbit) LD50: >4000 mg/kg ^[2]	
	Dermal (rabbit) LD50: >4000 mg/kg ^[2]	
	Oral (Rat) LD50: >16000 mg/kg ^[2]	
	Oral (Rat) LD50: >16000 mg/kg ^[2]	
	Oral (Rat) LD50: 13100 mg/kg ^[2]	
benzyl alcohol	TOXICITY	IRRITATION

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	Dermal (rabbit) LD50: 2000 mg/kg ^[2]	Eye (Rodent - rat): 0.1mL
	Inhalation (Rat) LC50: >4.178 mg/L4h ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 1230 mg/kg ^[2]	Skin (Human - man): 16mg/48H - Mild
		Skin (Human): 1%/2D
		Skin (Mammal - pig): 100% - Moderate
		Skin (Rodent - rabbit): 100mg/24H - Moderate
		Skin: no adverse effect observed (not irritating) ^[1]
5-chloro-2-methyl-4-isothiazolin-3-one	TOXICITY	IRRITATION
	dermal (rat) LD50: >1008 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1]
	Inhalation (Rat) LC50: 1.23 mg/14h ^[2]	Skin (Human - woman): 0.01%
	Oral (Rat) LD50: 53 mg/kg ^[2]	Skin (Human): 0.01% - Severe
		Skin (Human): 0.1%/48H
		Skin: adverse effect observed (corrosive) ^[1]
EDTA tetrasodium salt	TOXICITY	IRRITATION
	Oral (Rat) LD50: 630 mg/kg ^[2]	Eye (Rodent - rabbit): 100mg/24H - Moderate
		Eye (Rodent - rabbit): 1900ug
		Eye: adverse effect observed (irritating) ^[1]
		Skin (Human - man): 0.2%
		Skin (Rodent - rabbit): 500mg/24H - Moderate
water	TOXICITY	IRRITATION
	Oral (Rat) LD50: >90000 mg/kg ^[2]	Not Available

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

SODIUM LAURYL ETHER SULFATE	* [CESIO] Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation. Alcohol ethoxysulfates (AES) are of low acute toxicity. Neat AES are irritant to the skin and eyes.
COCAMIDOPROPYLBETAINE	* [Van Waters and Rogers] ** [Canada Colors and Chemicals Ltd.] Toxicokinetics, metabolism and distribution. Absorption of the chemical across dermal and gastrointestinal membranes is possible based on the relatively low molecular weight of the chemical (500 Da) and given that it is a surfactant (EC, 2003). Acute toxicity. Acute oral toxicity studies in rats and mice indicated that the LD50 values of the chemical (at 30-35.61% concentration) ranged from 1800 mg/kg bw (male rats) up to 5000 mg/kg bw, with mortalities noted in most studies (CIR, 2010). Of note is an acute oral toxicity study conducted in Sprague-Dawley rats (5/sex) at a single dose of 1800 mg/kg bw (formulation containing 35.61% of the chemical), where no males but all five females died. Overall, the data suggests that mortality occurs following oral administration of the chemical and that it may be an acute oral toxicant. Therefore, based on these data the chemical may be harmful if swallowed. An acute dermal toxicity study in rats was conducted using 2000 mg/kg bw of a 31% formulation of the chemical (CIR, 2010). Irritation was observed, but there were no clinical signs of systemic toxicity or mortalities. The lack of effects in this study suggests that the chemical is likely to be of low acute dermal toxicity. Irritation. The chemical has a quaternary ammonium functional group, which is a structural alert for corrosion Numerous skin irritation studies, conducted with formulations containing 7.5-30% of the chemical, indicated that the chemical has irritant properties. The studies were, in-general, conducted under occlusive conditions, with exposure times of up to 24 hours (7.5-10%). Based on the information available, the chemical is likely to be a skin irritant. Eye irritation studies with the chemical showed that corrosive and necrotic effects occurred at 30% whereas less severe effects were observed at lower concentrations of 2.3-10% The chemical is classified with the risk phrase R36: Irritating to eyes, however, based on studies conducted on the chemical it may be a severe eye irritant. Sensitisation. The chemical has a quaternary ammonium functional group, which is a structural alert for sensitisation (Conflicting results have been obtained with the chemical in animal studies. Positive results were reported in an LLNA study (an EC3 value was not reported). In addition, positive results were obtained in two guinea pig maximisation studies conducted by a single laboratory, the first at 3% induction and 3% challenge, and the second at 0.15% induction and 0.015% challenge. However, there was no sensitisation in a guinea pig maximisation test when the chemical was tested at 6% induction and 1% challenge. In addition, no sensitisation was observed in another test in guinea pigs at 0.75% induction and 0.02% challenge. No evidence of sensitisation was reported in a HRIPT on a formulation containing the chemical at 0.6% concentration (a 10% dilution of a ~6% formulation) with 110 volunteers. In HRIPT studies on formulations containing the chemical, no evidence of sensitisation was reported at concentrations of 1.87% (88 subjects), 0.93% (93 subjects), 0.3% (100 subjects), 1.5-3.0% (141 subjects), 6.0% (210 subjects), 0.018% (27 subjects). However, positive results were observed in provocative studies conducted on formulations containing the chemical (at 0.3-1% concentration), conducted in subjects diagnosed with various forms of contact dermatitis, suggesting that the chemical may cause reactions in sensitive individuals In one study authors note that sensitisation effects of the chemical (and related compounds) are most likely due to the impurities, including DMAPA and amidopropyl dimethylamines, however, they do not exclude the possibility of the causing the sensitisation. The potential for skin sensitisation, due to the presence of the above impurities in the chemical, will be limited by their reported low concentration In summary, a definitive conclusion cannot be made on the skin sensitisation potential of the chemical. The available information suggests that skin sensitisation is possible. Although there are some inconsistencies in the results reported for studies conducted on the chemical, the scientific data points towards the positive findings being caused by impurities, in particular DMAPA and amidopropyl dimethylamines, which are present in the chemical at low concentrations. Repeated Dose Toxicity. In a 28-day repeated dose oral toxicity study, rats were administered a 30.6% solution of the chemical at 0, 100, 500 or 1000 mg/kg bw/day. Inflammation of the non-glandular stomach was noted in animals of the high-dose group, although this effect was attributed to the irritant properties of the test material. Mortality was also observed in this study at all treatment levels but there was no dose-response relationship . In another 28-day repeated dose oral toxicity study, rats were administered a solution containing the chemical (concentration not stated) at 0, 250, 500 or 1000 mg/kg bw/day. The NOEL was reported as 500 mg/kg bw/day, which appears to be based on non-systemic irritant effects on the non-glandular stomach. No mortalities were observed In a 90-day repeated dose oral toxicity study, rats were administered a solution containing the chemical (concentration not stated) at 0, 250, 500 or 1000 mg/kg bw/day. There were no mortalities and the noted effects are isolated to the stomach region and appear to be irritant in nature. The NOEL established by the study

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	authors was 250 mg/kg bw/day, based on these effects. Mutagenicity. The chemical was not mutagenic in numerous bacterial reverse mutation assays. Negative results were also obtained for the chemical in a mouse lymphoma test and a micronucleus test in mice . Carcinogenicity. No signs of carcinogenicity were noted in a 20 month dermal study in mice (3 applications/week) for a hair dye formulation containing the chemical at a concentration of 0.09% The formation of nitrosamines is possible. Secondary amides (and the identified impurities) may serve as substrates for N-nitrosation, therefore formulation with N-nitrosating agents should be avoided Possible cross-reactions to several fatty acid amidopropyl dimethylamines were observed in patients that were reported to have allergic contact dermatitis to a baby lotion that contained 0.3% oleamidopropyl dimethylamine. Stearamidopropyl dimethylamine at 2% in hair conditioners was not a contact sensitizer when tested neat or diluted to 30%. However, irritation reactions were observed. A 10-year retrospective study found that out of 46 patients with confirmed allergic eyelid dermatitis, 10.9% had relevant reactions to oleamidopropyl dimethylamine and 4.3% had relevant reactions to cocamidopropyl dimethylamine. Several cases of allergic contact dermatitis were reported in patients from the Netherlands that had used a particular type of body lotion that contained oleamidopropyl dimethylamine. In 12 patients tested with their personal cosmetics, containing the fatty acid amidopropyl dimethylamine cocamidopropyl betaine (CAPB), 9 had positive reactions to at least one dilution and 5 had irritant reactions. All except 3 patients, who were not tested, had 2 or 3+ reaction to the 3,3-dimethylaminopropylamine (DMAPA, the reactant used in producing fatty acid amidopropyl dimethylamines) at concentrations as low as 0.05%. The presence of DMAPA was investigated via thin-layer chromatography in the personal cosmetics of 4 of the patients that had positive reactions. DMAPA was measured in the products at 50 - 150 ppm suggesting that the sensitising agent in CAPB-induced allergy is DMAPA . The sensitisation potential of a 4% aqueous liquid fabric softener formulation containing 0.5% stearyl/palmitylamidopropyl dimethylamine was investigated using. The test material caused some irritation in most volunteers. After a rest period of 2 weeks, the subjects received challenge patches with the same concentration of test material on both arms. Patch sites were graded 48 and 96 h after patching. Eight subjects reacted at challenge, and 7 of the eight submitted to rechallenge with 4% and 0.4% aqueous formulations. No reactions indicative of sensitisation occurred at rechallenge. The test formulation containing stearyl/palmitylamidopropyl dimethylamine had no significant sensitisation potential.subjects. Amphoteric surfactants are easily absorbed in the gut and partly excreted unchanged in the faeces. It has not been shown to accumulate in the body. Concentrated betaines are expected to irritate the skin and eyes, but dilute solutions only irritate the eyes. No evidence of delayed contact hypersensitivity was found in animal testing. Tests for mutation-causing potential have proved negative.
GLYCOL DISTEARATE	Aliphatic Esters Panel, Group C substances are comprised of an acid and an alcohol. They are relatively non-volatile, with high boiling and low water solubility. They are useful lubricants and solvents. They have a low degree oral and skin toxicity level in both acute and chronic settings. There is inadequate toxicity data to date, but evidence suggests that it does not cause reproductive, developmental or genetic damage.
COCONUT OIL MONOETHANOLAMIDE	The chemicals in the Fatty Nitrogen Derived (FND) Amides are generally similar in terms of physical and chemical properties, environmental fate and toxicity. Its low acute oral toxicity is well established across all subcategories by the available data and show no apparent organ specific toxicity, mutation, reproductive or developmental defects.
ALCOHOLS C12-18 ETHOXYLATED	for similar product:
COCONUT MONOISOPROPANOLAMIDE	* Albright and Wilson
ALCOHOLS C12-14 ETHOXYLATED	* BASF Canada ** [Henkel CCINFO 1450373] Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. However, repeated exposure may cause dose dependent damage to the kidneys as well as reproductive and developmental defects.
DECYL D-GLUCOSIDE	Alkyl polyglycoside analogues show low acute toxicity if given by mouth. At very high concentrations, alkyl glycosides are considered irritant, with the risk of serious damage to the eyes. However, it does not irritate the skin.
ZINC PYRITHIONE	NOAEL: 11.0 mg/kg/day cynomolgus monkey * [* = Arch Chemical] Acute pulmonary oedema, dyspnea, weight loss or decreased weight gain, recordings from specific areas of the CNS, mydriasis, somnolence, changes in motor activity, recording from peripheral motor nerve, muscle weakness, spastic paralysis, reproductive system tumours, retinal changes, diarrhoea, foetotoxicity, specific developmental abnormalities (musculoskeletal system, central nervous system, effects on newborn, foetolethality recorded. Use of zinc pyrithione is prohibited within cosmetic products in the European Union since December 2021.[19]The substance was considered safe for use in rinse-off and leave-in products of different tested concentrations, but due to potential environmental toxicity consideration of the use of zinc pyrithione was made against potential alternative substance ingredients. Due to no industry submission to the regulators supporting the continued use of zinc pyrithione and/or an absence of indications that there were no suitable alternatives to the substance: the use of zinc pyrithione became automatically prohibited within cosmetic products as an intended ingredient. This was as a consequence of zinc pyrithione addition to the Cosmetic Product Regulation (EC) No 1223/2009 Annex II list nc pyrithione concentration of up to 2% is allowed for products when they are formulated to be applied and then washed off after brief exposure. Alternatively, up to 0.25 percent when formulated to be left on the skin or scalp Animal testing shows that pyrithiones at sufficient doses can cause vomiting, bleeding of the mucous membranes of the stomach and weight loss and anaemia and paralysis at very high doses, and in extreme cases may be lethal. Although it is very poorly absorbed through skin, dermal exposure at very high doses can potentially cause similar effects. Chronic exposure, in animal testing, has been shown to potentially damage the nervous system. Pyrithiones may reduce fertility and cause an increase in birth defects. However, it has not been shown to result in development of mutations or chromosome aberrations.
ZINC SULFATE	Oral (human) TDLo: 45 mg/kg/7d-C Eye (rabbit): 0.42 mg moderate Oral (man) TDLo: 180 mg/kg/6w-I Equivocal tumorigenic agent by RTECS criteria. for zinc sulfate heptahydrate Sleep, ataxia, respiratory stimulation, somnolence, coma, diarrhoea, changes in endocrine pancreas recorded. Exposure may produce irreversible effects*. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
POLYDIMETHYLSILOXANE	No toxic response noted during 90 day subchronic inhalation toxicity studies The no observable effect level is 450 mg/m3. Non-irritating and non-sensitising in human patch test. [Xerox]* Siloxanes may impair liver and hormonal function, as well as the lung and kidney. They have not been found to be irritating to the skin and eyes. They may potentially cause cancer (tumours of the womb in females) and may cause impaired fertility or infertility.
POLYQUATERNIUM-10	Oral (-) LD50: >4000 mg/kg * Skin : Not irritating ** MakingCosmetics MSDS For alkyltrimethylammonium chloride (ATMAC) Most undiluted cationic surfactants satisfy the criteria for classification as Harmful (Xn) with R22 and as Irritant (Xi) for skin and eyes with R38 and R41. In addition, certain surfactants will satisfy the criteria for classification as Corrosive with R34 in addition to the acute toxicity. According to Centre Europeen des Agents de Surface et de leurs Intermediaires Organiques (CESIO), C8-18 alkyltrimethylammonium chloride (ATMAC) (i.e., lauryl, coco, soya, and tallow) are classified as Corrosive (C) with the risk phrases R22 (Harmful if swallowed) and R34 (Causes burns). C16 ATMAC is classified as Harmful (Xn) with the risk phrases R22 (Harmful if swallowed), R38 (Irritating to skin), and R41 (Risk of serious damage to eyes). C20-22 ATMAC are classified as Irritant (Xi) with R36/38 (Irritating to eyes and skin). Acute toxicity: ATMAB (the bromide) is poorly absorbed through the skin or the digestive tract. Acute oral toxicity of alkyltrimethylammonium salts is somewhat higher than the toxicity of anionic and nonionic surfactants. This may be due to the strongly irritating effect which cationic surfactants have on the mucous membrane of the gastrointestinal tract. Cationic surfactants are generally about 10 times more toxic when given through a vein, compared to being given by mouth.

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Skin and eye irritation: Skin irritation depends on surfactant concentration. Concentrations above 1% generally cause pronounced irritation. Cationic surfactants are the most irritating surfactants to the eye.

Many proteins in the skin are considerably more resistant to the denaturing effects of cationic surfactants compared to those of anionic surfactants. In contrast to the irreversible denaturing effect of sodium dodecyl sulfate, the adverse effects of some cationic surfactants on proteins may be reversible.

Sensitisation: A repeated patch test performed on human volunteers did not show sensitization.

Sub-chronic toxicity: Animal testing over the long term resulted in no effects, except for reduced body weight at very high doses.

Reproductive toxicity: Animal testing showed no effects toxic to the embryo or causing birth defects. Mild effects on the embryo were seen only at levels which were toxic to the mother.

Mutation-causing potential: Animal testing showed no mutation-causing potential for C16 and C18 ATMAC.

For quaternary ammonium compounds (QACs): Quaternary ammonium compounds (QACs) are cationic surfactants. They are in general more toxic than anionic and non-ionic surfactants. Because they can dissolve phospholipids and cholesterol in lipid membranes, QACs affect cell permeability which may lead to cell death. Further, QACs denature proteins as cationic materials precipitate protein and are accompanied by generalized tissue irritation.

It has been suggested that the experimentally determined decrease in the acute toxicity of QAs with chain length above C16 is due to decreased water solubility. In general it appears that QACs with single long-chain alkyl groups are more toxic and irritating than those with two such substitutions.

Animal testing shows that straight chain aliphatic QACs may cause lung tissue to release histamine. QACs may also show curare-like properties, causing limb paralysis and even life-threatening paralysis of the muscles of breathing, if they are injected. This paralysis seems to be transient.

From human testing, it is concluded that all the compounds investigated to date show similar toxicological properties.

BENZYL ALCOHOL

Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and conjugal contact dermatitis occurs. Contact allergy is a lifelong condition, so symptoms may occur on re-exposure. Allergic contact dermatitis can be severe and widespread, with significant impairment of quality of life and potential consequences for fitness for work.

If the perfume contains a sensitizing component, intolerance to perfumes by inhalation may occur. Symptoms may include general unwellness, coughing, phlegm, wheezing, chest tightness, headache, shortness of breath with exertion, acute respiratory illness, hayfever, asthma and other respiratory diseases. Perfumes can induce excess reactivity of the airway without producing allergy or airway obstruction. Breathing through a carbon filter mask had no protective effect.

Occupational asthma caused by perfume substances, such as isoamyl acetate, limonene, cinnamaldehyde and benzaldehyde, tend to give persistent symptoms, even though the exposure is below occupational exposure limits. Prevention of contact sensitization to fragrances is an important objective of public health risk management.

Hands: Contact sensitization may be the primary cause of hand eczema or a complication of irritant or atopic hand eczema. However hand eczema is a disease involving many factors, and the clinical significance of fragrance contact allergy in severe, chronic hand eczema may not be clear.

Underarm: Skin inflammation of the armpits may be caused by perfume in deodorants and, if the reaction is severe, it may spread down the arms and to other areas of the body. In individuals who consulted a skin specialist, a history of such first-time symptoms was significantly related to the later diagnosis of perfume allergy.

Face: An important manifestation of fragrance allergy from the use of cosmetic products is eczema of the face. In men, after-shave products can cause eczema around the beard area and the adjacent part of the neck. Men using wet shaving as opposed to dry have been shown to have an increased risk of allergic to fragrances.

Irritant reactions: Some individual fragrance ingredients, such as citral, are known to be irritant. Fragrances may cause a dose-related contact urticaria (hives) which is not allergic; cinnamal, cinnamic alcohol and Myroxylon pereirae are known to cause hives, but others, including menthol, vanillin and benzaldehyde have also been reported.

Pigmentary anomalies: Type IV allergy is responsible for "pigmented cosmetic dermatitis", referring to increased pigmentation on the face and neck. Testing showed a number of fragrance ingredients were associated, including jasmine absolute, ylang-ylang oil, cananga oil, benzyl salicylate, hydroxycitronellal, sandalwood oil, geraniol and geranium oil.

Light reactions: Musk ambrette produced a number of allergic reactions mediated by light and was later banned from use in Europe.

Furocoumarins (psoralens) in some plant-derived fragrances have caused phototoxic reactions, with redness. There are now limits for the amount of furocoumarins in fragrances. Phototoxic reactions still occur, but are rare.

General/respiratory: Fragrances are volatile, and therefore, in addition to skin exposure, a perfume also exposes the eyes and the nose / airway. It is estimated that 2-4% of the adult population is affected by respiratory or eye symptoms by such an exposure. It is known that exposure to fragrances may exacerbate pre-existing asthma. Asthma-like symptoms can be provoked by sensory mechanisms. A significant association was found between respiratory complaints related to fragrances and contact allergy to fragrance ingredients and hand eczema.

Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation. A prehapten is a chemical that itself causes little or no sensitization, but is transformed into a hapten in the skin (bioactivation), usually via enzyme catalysis. It is not always possible to know whether a particular allergen that is not directly reactive acts as a prehapten or a prohaptent, or both.

Prohaptens: Compounds that are bioactivated in the skin and thereby form haptens are referred to as haptens. The possibility of a prohaptent being activated cannot be avoided by outside measures. Activation processes increase the risk for cross-reactivity between fragrance substances. Various enzymes play roles in both activating and deactivating prohaptens. Skin-sensitizing prohaptens can be recognized and grouped into chemical classes based on knowledge of xenobiotic bioactivation reactions, clinical observations and/or studies of sensitization.

QSAR prediction: Prediction of sensitization activity of these substances is complex, especially for those substances that can act both as pre- and prohaptens.

CYP1A2 is a member of the cytochrome P450 super family, is one of the best characterized. It is responsible for the metabolism of commonly drugs belonging to classes such as antidepressants, antipsychotics, mood stabilizers, beta blockers and sedative/hypnotics CYP1A2 also metabolises a number of procarcinogens (such as those in cigarettes). Cigarette smoking may lead to three fold increase in 1A2 activity, which explains why smokers require higher doses of beta blockers than non-smokers

Drugs that inhibit CYP1A2 will predictably increase the plasma concentrations of the medications or decrease in clearance of substrates.

Drugs such as ciprofloxacin, fluvoxamine, verapamil cimetidine, caffeine and isoniazid are inhibitors of CYP1A2 enzyme. Vegetables such as grape fruit juice, cumic and turmeric are inhibitors of the CYP1A2 enzyme which may leads to increase plasma concentration of psychotropics

Inhibition of NF-κB in vivo can be detrimental. NF-κB controls multiple functions in homeostasis including a functional immune response, cell cycle, and cell death. Genetic studies in mice and analysis of naturally occurring mutations in humans point to specific developmental and immune consequences due to altering NF-κB activity.

The same functions that make NF-κB attractive for developing inhibitors for treating disease also play a role in homeostasis, and disruption of the NF-κB pathway during development or in adults leads to unfavorable and potentially unhealthy consequences.

NF-κB plays a role in multiple homeostatic cellular processes including response to stimuli, cell proliferation, and death, regulating communication between cells, but is also tightly linked with other signaling pathways within the cell, such as p38 and JNK. In addition to mediating proinflammatory responses, NF-κB may regulate apoptotic and cell cycle changes induced by cellular stress, DNA damage or oncogenes by communication with the tumor suppressor p53. Disruption of normal cellular responses by inhibiting NF-κB can have adverse consequences such as immune suppression and tissue damage.

Understanding the consequences of lack of NF-κB activity in adult humans comes from observation of naturally occurring genetic deficiencies in this pathway. Mutations have been discovered in humans in signaling molecules upstream of NF-κB resulting in defects in development or immunity. Genetic defects have also been discovered in genes that immediately affect NF-κB activation including IKK gamma (NEMO), a subunit of the IKK complex, and IκBα. The IKK gamma mutations result in a defective IKK complex and the IκBα mutation results in an IκBα protein that cannot be phosphorylated and degraded. Both genetic defects result in suppressed NF-κB activation and ectodermal dysplasia with immunodeficiency. In general patients with these genetic defects have multiple immunological defects including impaired innate immunity, impaired antibody production, and ultimately severe bacterial infections. Understanding the immune defects and susceptibilities in patients with genetic defects in the NF-κB pathway will help prepare for potential adverse effects of pharmacologic NF-κB inhibitors

	The requirement for NF-κB in the development and maintenance of the immune system is well documented. NF-κB is required for survival during fetal development and for normal lymphocyte generation in adult mice. Removal of the p65 (RelA) subunit of NF-κB or the IKKβ gene results in death during fetal development primarily due to massive liver apoptosis Fetal liver stem cells from p65 or IKKβ deficient mice have been transplanted into irradiated hosts revealing a specific requirement of NF-κB for T-cells, B-cells, and common lymphoid progenitor development but not for myeloid cells or stem cells. The failure to produce lymphocytes is mediated through hypersensitivity to TNF due to lack of NF-κB activity. Lymphocyte depletion with chemical or genetic inhibition of NF-κB have implications for therapeutic potential use in humans. The double-sided nature of NF-κB inhibition is clear in this instance where chemical inhibition in vivo mimics genetic experiments inducing rapid TNF-dependent apoptosis. Rapid induction of apoptosis may be an advantage for treating some forms of cancer, but at the same time cause depletion of some lymphocyte populations. In addition to controlling lymphocyte development, NF-κB plays a major role in both adaptive and innate immunity. Various signaling pathways responding to receptor recognition of immune challenge converge on NF-κB which then regulates genes that control the immune response. Both T-cell receptor and B-cell receptors activate NF-κB through phosphorylation of CARMA1 by PKC theta and PKC beta respectively, resulting in recruitment and activation of IKK and ultimately expression of genes that control cellular activation, proliferation, and survival. In addition, NF-κB plays a role in T-cell response to costimulatory signals. Cells respond to pathogenic microorganisms in part through recognition by Toll-like receptors (TLRs).TLR-family members recognize different molecular structures present in microbes and respond by activating signaling pathways including NF-κB leading to expression of anti-microbial effector molecules, as well as molecules that help in development of the adaptive immune response. Inhibition of NF-κB during TLR stimulation can lead to macrophage apoptosis, a mechanism used by some pathogens to help evade immune response. NF-κB is clearly required for normal mature B-cell and T-cell maintenance and function, including regulatory, memory, and natural killer-like T cells. Inhibition of NF-κB activation in lymphocytes results in defects in growth, survival, and cytokine production and blocks multiple steps in germinal center formation. Given the diverse roles NF-κB plays in immune response to pathogens it is not surprising to find mice genetically deficient in components of the NF-κB pathway are susceptible to parasitic and bacterial infection. The role of NF-κB in inhibition of apoptosis is one of the factors that make it a potential target for cancer therapy. NF-κB deficient mice die during embryogenesis in part due to TNF-mediated liver damage. Adult mice with impaired NF-κB targeted to the liver have normal liver function, but have severe liver damage after challenge with concanavalin A, a pan-T cell activator. Liver damage occurs due to sustained activation of JNK due to accumulation of reactive oxygen species (ROS) in the absence of normal NF-κB activation. The aryl alkyl alcohol (AAA) fragrance ingredients have diverse chemical structures, with similar metabolic and toxicity profiles. The AAA fragrances demonstrate low acute and subchronic toxicity by skin contact and swallowing. At concentrations likely to be encountered by consumers, AAA fragrance ingredients are non-irritating to the skin. The potential for eye irritation is minimal. With the exception of benzyl alcohol, phenethyl and 2-phenoxyethyl AAA alcohols, testing in humans indicate that AAA fragrance ingredients generally have no or low sensitization potential. Available data indicate that the potential for photosensitization is low. Testing suggests that at current human exposure levels, this group of chemicals does not cause maternal or developmental toxicity. Animal testing shows no cancer-causing evidence, with little or no genetic toxicity. It has been concluded that these materials would not present a safety concern at current levels of use, as fragrance ingredients. This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin. They also lack significant potential to cause genetic toxicity and mutations. The intake of benzyl derivatives as natural components of traditional foods is actually higher than the intake as intentionally added flavouring substances. Unlike benzylic alcohols, the beta-hydroxyl group of the members of benzyl alkyl alcohols contributes to break down reactions but do not undergo phase II metabolic activation. Though structurally similar to cancer causing ethyl benzene, phenethyl alcohol is only of negligible concern due to limited similarity in their pattern of activity. For benzoates: Benzyl alcohol, benzoic acid and its sodium and potassium salt have a common metabolic and excretion pathway. All but benzyl alcohol are considered to be unharmed and of low acute toxicity. They may cause slight irritation by oral, dermal or inhalation exposure except sodium benzoate which doesn't irritate the skin. Studies showed increased mortality, reduced weight gain, liver and kidney effects at higher doses, also, lesions of the brains, thymus and skeletal muscles may occur with benzyl alcohol. However, they do not cause cancer, genetic or reproductive toxicity. Developmental toxicity may occur but only at maternal toxic level.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be the major sensitizer in Kathon CG (1) (1). Bruze et al - Contact Dermatitis 20: 219-39, 1989 Based on laboratory and animal testing, exposure to the material may result in irreversible effects and mutations in humans. In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance. Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. In addition, potential exposure of non-users of biocidal products (i.e. the general public) may occur indirectly via the environment, for example through drinking water, the food chain, as well as through atmospheric and residential exposure. Particular attention should be paid to the exposure of vulnerable sub-populations, such as the elderly, pregnant women, and children. Also pets and other domestic animals can be exposed indirectly following the application of biocidal products. Furthermore, exposure to biocides may vary in terms of route (inhalation, dermal contact, and ingestion) and pathway (food, drinking water, residential, occupational) of exposure, level, frequency and duration. Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.
EDTA TETRASODIUM SALT	* Sigma Aldrich - for the dihydrate For ethylenediaminetetraacetic acid (EDTA) and its salts: EDTA is a strong organic acid, with a high affinity for alkaline-earth ions (for example, calcium and magnesium) and heavy-metal ions (such as lead and mercury), resulting in highly stable chelate complexes. The ability of EDTA to complex is used commercially to either promote or inhibit chemical reactions, depending on application. EDTA and its salts are expected to be absorbed by the lungs and the gastrointestinal tract; absorption through skin is unlikely. They cause mild skin irritation, and severe eye irritation. The greatest risk in the human body will occur when the EDTA attempts to scavenge the trace metals used and required by the body. The binding of divalent and trivalent cations by EDTA can cause mineral deficiencies, such as zinc deficiency. These appear to be responsible for all of the known pharmacological effects. EDTA and its salts are mostly eliminated through the urine, with 5% eliminated via the bile, along with the metal ions which are bound to it. Trisodium EDTA has not been found to cause cancer. EDTA and its salts are not likely to cause harm to children and infants at levels likely to be encountered.
SODIUM LAURYL ETHER SULFATE & GLYCOL DISTEARATE & COCONUT OIL MONOETHANOLAMIDE & ETHYL ACRYLATE/ BUTYL ACRYLATE/ METHACRYLIC ACID POLYMER & STYRENE/ ACRYLIC ACID COPOLYMER & DECYL D-GLUCOSIDE & POLYQUATERNIUM-10 & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE WATER	No significant acute toxicological data identified in literature search.

SODIUM LAURYL ETHER SULFATE & COCAMIDOPROPYLBETAINE & SODIUM CHLORIDE & COCONUT MONOISOPROPANOLAMIDE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
COCAMIDOPROPYLBETAINE & DECYL D-GLUCOSIDE & BENZYL ALCOHOL & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & EDTA TETRASODIUM SALT	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
COCAMIDOPROPYLBETAINE & POLYQUATERNIUM-10	Most undiluted cationic surfactants satisfy the criteria for classification as Harmful (Xn) with R22 and as Irritant (Xi) for skin and eyes with R38 and R41.
COCAMIDOPROPYLBETAINE & SODIUM CHLORIDE & ALCOHOLS C12-14 ETHOXYLATED & BENZYL ALCOHOL & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
SODIUM CHLORIDE & SODIUM HYDROXIDE & POLYQUATERNIUM-10 & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & EDTA TETRASODIUM SALT	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.
COCONUT OIL MONOETHANOLAMIDE & COCONUT MONOISOPROPANOLAMIDE	Laboratory testing shows that the fatty acid amide, cocoamide DEA, causes occupational allergic contact dermatitis, and that allergy to this substance is becoming more common. Alkanolamides are manufactured by condensation of diethanolamine and the methyl ester of long chain fatty acids.
ALCOHOLS C12-18 ETHOXYLATED & ALCOHOLS C12-14 ETHOXYLATED	Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact. Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethoxylates were applied to the skin and eyes of animals. These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates. Some of the oxidation products of this group of substances may have sensitizing properties. As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact dermatitis (ACD) by patch testing. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.
ALCOHOLS C12-18 ETHOXYLATED & ALCOHOLS C12-14 ETHOXYLATED & SODIUM HYDROXIDE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
ALCOHOLS C12-18 ETHOXYLATED & COCONUT MONOISOPROPANOLAMIDE & SODIUM HYDROXIDE	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
POLYDIMETHYLSILOXANE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
✔ – Data available to make classification

SECTION 12 Ecological information

Personal Care - Dandruff Shampoo - Daily Clean	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
sodium lauryl ether sulfate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	2.43-4.01mg/l	4

Personal Care - Dandruff Shampoo - Daily Clean

	NOEC(ECx)	48h	Fish	0.26mg/L	5
cocamidopropylbetaine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	6.5mg/l	1
	EC50	72h	Algae or other aquatic plants	1-10mg/l	1
	LC50	96h	Fish	1-10mg/l	Not Available
	EC50	96h	Algae or other aquatic plants	0.55mg/l	1
	EC0(ECx)	96h	Algae or other aquatic plants	0.09mg/l	1
sodium chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	0.004-0.006mg/L	4
	NOEC(ECx)	6h	Fish	0.001mg/L	4
	EC50	72h	Algae or other aquatic plants	20.76-36.17mg/L	4
	EC50	96h	Algae or other aquatic plants	1110.36mg/L	4
	LC50	96h	Fish	1000mg/L	4
glycol distearate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	LC50	96h	Fish	>0.3mg/l	2
	NOEC(ECx)	96h	Fish	>=0.3mg/l	2
coconut oil monoethanolamide	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	>100mg/l	1
	LC50	96h	Fish	10.1mg/l	1
	EC50	96h	Algae or other aquatic plants	1mg/l	1
	EC0(ECx)	96h	Algae or other aquatic plants	0.3mg/l	1
alcohols C12-18 ethoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	0.53mg/l	2
	EC50	72h	Algae or other aquatic plants	0.19mg/l	2
	LC50	96h	Fish	0.876mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	0.078mg/l	2
coconut monoisopropanolamide	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
alcohols C12-14 ethoxylated	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	0.125mg/l	2
	EC50	72h	Algae or other aquatic plants	0.044mg/l	2
	LC50	96h	Fish	0.423mg/l	2
	NOEC(ECx)	504h	Crustacea	>=0.001<=0.107mg/L	2
ethyl acrylate/ butyl acrylate/ methacrylic acid polymer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
styrene/ acrylic acid copolymer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
decyl D-glucoside	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	31.62mg/l	2
	EC50	72h	Algae or other aquatic plants	12.43mg/l	2
	LC50	96h	Fish	96.64mg/l	2
	NOEC(ECx)	672h	Fish	1mg/l	2
zinc pyrithione	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1440h	Fish	52-180	7
	EC50	48h	Crustacea	0.002-2.14mg/L	4
	EC50	72h	Algae or other aquatic plants	0.001mg/L	4
	EC50	96h	Algae or other aquatic plants	<0.001mg/L	4
	NOEC(ECx)	96h	Algae or other aquatic plants	<0.001mg/L	2
	LC50	96h	Fish	0.003mg/L	2

Continued...

zinc sulfate	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1344h	Fish	59-112	7
	EC50	48h	Crustacea	0.06mg/L	4
	EC20(ECx)	72h	Algae or other aquatic plants	0.001-0.075mg/l	4
	EC50	72h	Algae or other aquatic plants	0.01-0.122mg/l	4
	EC50	96h	Algae or other aquatic plants	0.01mg/L	4
	LC50	96h	Fish	<0.001mg/L	4
sodium hydroxide	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	34.59-47.13mg/l	4
	EC50(ECx)	48h	Crustacea	34.59-47.13mg/l	4
	LC50	96h	Fish	144-267mg/l	4
polydimethylsiloxane	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Polyquaternium-10	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	1-10mg/l	Not Available
benzyl alcohol	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	230mg/l	2
	EC50	72h	Algae or other aquatic plants	500mg/l	2
	NOEC(ECx)	336h	Fish	5.1mg/l	2
	EC50	96h	Algae or other aquatic plants	76.828mg/l	2
	LC50	96h	Fish	10mg/l	2
5-chloro-2-methyl-4-isothiazolin-3-one	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	4.71mg/l	1
	EC50	72h	Algae or other aquatic plants	0.018-0.026mg/L	4
	EC50	96h	Algae or other aquatic plants	0.03-0.13mg/L	4
	NOEC(ECx)	504h	Crustacea	0.172mg/l	1
	LC50	96h	Fish	0.13-0.31mg/L	4
EDTA tetrasodium salt	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	>100mg/l	2
	EC50	72h	Algae or other aquatic plants	1.01mg/l	1
	LC50	96h	Fish	>100mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	0.39mg/l	1
water	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium chloride	LOW	LOW
glycol distearate	LOW	LOW
decyl D-glucoside	LOW	LOW
zinc sulfate	HIGH	HIGH
sodium hydroxide	LOW	LOW
benzyl alcohol	LOW	LOW
5-chloro-2-methyl-4-isothiazolin-3-one	HIGH	HIGH
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
sodium lauryl ether sulfate	LOW (LogKOW = 1.62)
sodium chloride	LOW (LogKOW = 0.54)
glycol distearate	LOW (LogKOW = 16.12)
coconut oil monoethanolamide	LOW (LogKOW = 3.24)
alcohols C12-18 ethoxylated	MEDIUM (LogKOW = 4.38)
alcohols C12-14 ethoxylated	HIGH (LogKOW = 5.96)
decyl D-glucoside	LOW (LogKOW = 1.916)
zinc pyrithione	LOW (BCF = 240)
zinc sulfate	LOW (BCF = 112)
sodium hydroxide	LOW (LogKOW = -3.88)
benzyl alcohol	LOW (LogKOW = 1.1)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (LogKOW = 0.0444)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
sodium chloride	LOW (Log KOC = 14.3)
glycol distearate	LOW (Log KOC = 1030000000)
decyl D-glucoside	LOW (Log KOC = 10)
zinc sulfate	LOW (Log KOC = 6.124)
sodium hydroxide	LOW (Log KOC = 14.3)
benzyl alcohol	LOW (Log KOC = 15.66)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (Log KOC = 45.15)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
sodium lauryl ether sulfate	Not Available
cocamidopropylbetaine	Not Available
sodium chloride	Not Available
glycol distearate	Not Available
coconut oil monoethanolamide	Not Available
alcohols C12-18 ethoxylated	Not Available
coconut monoisopropanolamide	Not Available
alcohols C12-14 ethoxylated	Not Available
ethyl acrylate/ butyl acrylate/ methacrylic acid polymer	Not Available
styrene/ acrylic acid copolymer	Not Available

Product name	Group
decyl D-glucoside	Not Available
zinc pyrithione	Not Available
zinc sulfate	Not Available
sodium hydroxide	Not Available
polydimethylsiloxane	Not Available
Polyquaternium-10	Not Available
benzyl alcohol	Not Available
5-chloro-2-methyl-4-isothiazolin-3-one	Not Available
EDTA tetrasodium salt	Not Available
water	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
sodium lauryl ether sulfate	Not Available
cocamidopropylbetaine	Not Available
sodium chloride	Not Available
glycol distearate	Not Available
coconut oil monoethanolamide	Not Available
alcohols C12-18 ethoxylated	Not Available
coconut monoisopropanolamide	Not Available
alcohols C12-14 ethoxylated	Not Available
ethyl acrylate/ butyl acrylate/ methacrylic acid polymer	Not Available
styrene/ acrylic acid copolymer	Not Available
decyl D-glucoside	Not Available
zinc pyrithione	Not Available
zinc sulfate	Not Available
sodium hydroxide	Not Available
polydimethylsiloxane	Not Available
Polyquaternium-10	Not Available
benzyl alcohol	Not Available
5-chloro-2-methyl-4-isothiazolin-3-one	Not Available
EDTA tetrasodium salt	Not Available
water	Not Available

SECTION 15 Regulatory information

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

- sodium lauryl ether sulfate is found on the following regulatory lists**
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
- cocamidopropylbetaine is found on the following regulatory lists**
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australian Inventory of Industrial Chemicals (AIIC)
- sodium chloride is found on the following regulatory lists**
Australian Inventory of Industrial Chemicals (AIIC)
- glycol distearate is found on the following regulatory lists**
Australian Inventory of Industrial Chemicals (AIIC)
- coconut oil monoethanolamide is found on the following regulatory lists**
Australian Inventory of Industrial Chemicals (AIIC)
- alcohols C12-18 ethoxylated is found on the following regulatory lists**
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
- coconut monoisopropanolamide is found on the following regulatory lists**
Australian Inventory of Industrial Chemicals (AIIC)
- alcohols C12-14 ethoxylated is found on the following regulatory lists**
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

ethyl acrylate/ butyl acrylate/ methacrylic acid polymer is found on the following regulatory lists

- Australian Inventory of Industrial Chemicals (AIIC)
- International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

styrene/ acrylic acid copolymer is found on the following regulatory lists

- Australian Inventory of Industrial Chemicals (AIIC)

decyl D-glucoside is found on the following regulatory lists

- Australian Inventory of Industrial Chemicals (AIIC)

zinc pyrithione is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
- Australian Inventory of Industrial Chemicals (AIIC)

zinc sulfate is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
- Australian Inventory of Industrial Chemicals (AIIC)

sodium hydroxide is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
- Australian Inventory of Industrial Chemicals (AIIC)

polydimethylsiloxane is found on the following regulatory lists

- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australian Inventory of Industrial Chemicals (AIIC)

Polyquaternium-10 is found on the following regulatory lists

- Australian Inventory of Industrial Chemicals (AIIC)

benzyl alcohol is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australian Inventory of Industrial Chemicals (AIIC)

5-chloro-2-methyl-4-isothiazolin-3-one is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
- Australian Inventory of Industrial Chemicals (AIIC)

EDTA tetrasodium salt is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
- Australian Inventory of Industrial Chemicals (AIIC)

water is found on the following regulatory lists

- Australian Inventory of Industrial Chemicals (AIIC)

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (sodium lauryl ether sulfate; cocamidopropylbetaine; sodium chloride; glycol distearate; coconut oil monoethanolamide; alcohols C12-18 ethoxylated; coconut monoisopropanolamide; alcohols C12-14 ethoxylated; ethyl acrylate/ butyl acrylate/ methacrylic acid polymer; styrene/ acrylic acid copolymer; decyl D-glucoside; zinc pyrithione; zinc sulfate; sodium hydroxide; polydimethylsiloxane; Polyquaternium-10; benzyl alcohol; 5-chloro-2-methyl-4-isothiazolin-3-one; EDTA tetrasodium salt; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (ethyl acrylate/ butyl acrylate/ methacrylic acid polymer; styrene/ acrylic acid copolymer; polydimethylsiloxane; Polyquaternium-10)
Japan - ENCS	No (coconut oil monoethanolamide; coconut monoisopropanolamide; Polyquaternium-10)
Korea - KECI	No (coconut monoisopropanolamide)
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (sodium lauryl ether sulfate; coconut monoisopropanolamide; alcohols C12-14 ethoxylated; ethyl acrylate/ butyl acrylate/ methacrylic acid polymer; decyl D-glucoside)

National Inventory	Status
Vietnam - NCI	Yes
Russia - FBEPH	No (coconut monoisopropanolamide; ethyl acrylate/ butyl acrylate/ methacrylic acid polymer; zinc pyrithione)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	23/06/2025
Initial Date	23/06/2025

SDS Version Summary

Version	Date of Update	Sections Updated
2.1	23/06/2025	Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Engineering Control, Ecological Information - Environmental, Exposure controls / personal protection - Exposure Standard, First Aid measures - First Aid (skin), Handling and storage - Handling Procedure, Stability and reactivity - Instability Condition, Exposure controls / personal protection - Personal Protection (other), Exposure controls / personal protection - Personal Protection (Respirator), Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (storage requirement), Toxicological information - Toxicity and Irritation (Other), Identification of the substance / mixture and of the company / undertaking - Use

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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