PRODUCT SAFETY DATA SHEET

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

1.1 Product identifier
DETTOL Washing Machine Cleaner Lemon Breeze

SDS number: D8278274 v14
Code: 8266468

1.2. Relevant identified uses of the substance or mixture and uses advised against
Washing machine cleaner

1.3. Details of the Supplier of the Safety Data Sheet
The United Kingdom:
RB UK Commercial Ltd
Wellcroft House
Wellcroft Road
Slough, Berkshire SL1 4AQ

The Republic Of Ireland:
RB Ireland Hygiene Home Commercial Ltd
7 Riverwalk
Citywest Business Campus
Dublin 24
Ireland

1.4 Emergency telephone number
RB UK Contact Telephone: 0333 2005 345 9 am - 5 pm weekdays
RB ROI Contact Telephone: 01 6305429 9 am - 5 pm weekdays

RB email: consumer.relations-hcukroi@rb.com
Poisons Information Centre of Ireland: 01 809 2166 8am-10pm 7 days a week.

Additional useful information
Reason of Revision : Updated data sheet

Revision date and number : 27/11/2020 v3

Supersedes : 1 February 2018 v2

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Met. Corr. 1, H290
Skin Irrit. 2, H315
Eye Dam. 1, H318
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : May be corrosive to metals.
Causes skin irritation.
Causes serious eye damage.
Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Wash hands thoroughly after handling. Keep only in original packaging. Wear eye protection/face protection.

Response : IF IN EYES: Rinse continuously with water for several minutes and remove contact lenses if present and easy to do; continue rinsing. Immediately call a POISON CENETR/doctor.

Storage : Not applicable

Disposal : Dispose of contents and container in accordance with all local and national regulations.

Hazardous ingredients : L-Lactic acid (2-hydroxy propionic acid)
BENZALKONIUM CHLORIDE
BIS(3-AMINOPROPYL)DODECYLAMINE

Supplemental label elements : **Ingredient Declaration:**
Per 100 g of product contains 2.25 g of benzalkonium chloride, 9.99 g of lactic acid, 0.13 g bis(3-Aminopropyl) dodecylamine,
Contains less than 5% non-ionic surfactant
Disinfectant
Perfume
Contains Citral, Citronellol, Hexylcinnamal, Limonene and Linalool

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : None.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
L-Lactic acid (2-hydroxy propionic acid)	REACH #: 01-2119474164-39 EC: 201-196-2 CAS: 79-33-4	≤10	Acute Tox. 4, H312 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Dam. 1, H318	[1]
BENZALKONIUM CHLORIDE	REACH #: 01-2119983287-23 EC: 270-325-2 CAS: 68424-85-1	≤2.3	Met. Corr. 1, H290 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	[1]
Alcohols, C10-16, ethoxylated propoxylated	CAS: 69227-22-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
CITRIC ACID	REACH #: 01-2119457026-42 EC: 201-069-1 CAS: 77-92-9	≤3	Eye Irrit. 2, H319	[1]
POLYQUATERNIUM-33	CAS: 69418-26-4	≤3	Eye Irrit. 2, H319	[1]
LAURYLAMINE DIPROPYLENEDIAMINE	EC: 219-145-8 CAS: 2372-82-9	≤0.13	Acute Tox. 3, H301 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 2, H373 (oral) Aquatic Acute 1, H400 (M=10) **See Section 16 for the full text of the H statements declared above.**	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : No specific data.

5.3 Advice for firefighters

SECTION 5: Firefighting measures

Special protective actions for fire-fighters : 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.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if 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. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.

SECTION 7: Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a corrosion resistant container with a resistant inner liner. Store locked up. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Washing machine cleaner.
Consumer uses.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
BENZALKONIUM CHLORIDE	DNEL	Long term Inhalation	1.64 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Oral	3.4 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	3.4 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
BENZALKONIUM CHLORIDE	Fresh water	0.001 mg/l	-
	Marine water	0.001 mg/l	-
	Sewage Treatment Plant	0.4 mg/l	-
	Fresh water sediment	12.27 mg/kg dwt	-
	Marine water sediment	13.09 mg/kg dwt	-
CITRIC ACID	Fresh water	440 mg/l	-
	Fresh water sediment	34.6 mg/kg	-
	Marine water sediment	3.46 mg/kg	-
	Soil	33.1 mg/kg	-

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

SECTION 8: Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : EN 16523-1:2015
Tested for protection against chemical permeation.
Low chemical resistant or waterproof gloves.
(EN 16523-1:2015 supersedes EN 374-3:2003)
EN 374-2:2003
Tested for protection against liquid penetration and micro-organisms.
EN 388:2003
Tested for protection against mechanical risks (abrasion, blade cut resistance, tear resistance and puncture resistance).
ISO 374-1:2016/Type A
Protective glove with permeation resistance of at least 30 minutes each for at least 6 test chemicals.
ISO 374-1:2016/Type B
Protective glove with permeation resistance of at least 30 minutes each for at least 3 test chemicals.
ISO 374-1:2016/Type C
Protective glove with permeation resistance of at least 10 minutes for at least 1 test chemical.
Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid. [Transparent]

Color : Yellow

Odor : Fragrant.

Odor threshold : Not determined

pH : 2.3 to 2.7 [Conc. (% w/w): 100%]

Melting point/freezing point : Not determined

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range : Not determined

Flash point : Closed cup: >93.3°C

Evaporation rate : Not determined

Flammability (solid, gas) : Not determined

Upper/lower flammability or explosive limits : Not determined

Vapor pressure : Not determined

Vapor density : Not determined

Relative density : 1 to 1.1

Solubility(ies) : Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Not determined

Decomposition temperature : Not determined

Viscosity : Dynamic (room temperature): 110 to 290 mPa·s

Explosive properties : Not determined

Oxidizing properties : Not determined

9.2 Other information

Auto-ignition temperature : Not available.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
metals

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
L-Lactic acid (2-hydroxy propionic acid)	LC50 Inhalation Vapor	Rat - Male, Female	7.94 mg/l	4 hours
	LD50 Dermal	Rabbit - Male	2000 mg/kg	-
	LD50 Oral	Rat - Female	3543 mg/kg	-
BENZALKONIUM CHLORIDE	LD50 Dermal	Rabbit	2848 mg/kg	-
	LD50 Dermal	Rabbit	3413 mg/kg	-
	LD50 Oral	Rat	344 mg/kg	-
	LD50 Oral	Rat	398 mg/kg	-
CITRIC ACID	LD50 Oral	Rat	11700 mg/kg	-
LAURYLAMINE DIPROPYLENEDIAMINE	LD50 Oral	Rat	261 mg/kg	-

SECTION 11: Toxicological information

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Dettol Washing Machine Cleaner_8266468_D8278274 (EU)	14214.7	20016	N/A	79.5	N/A
L-Lactic acid (2-hydroxy propionic acid)	3543	2000	N/A	7.94	N/A
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	344	2848	N/A	N/A	N/A
Citric acid	11700	N/A	N/A	N/A	N/A
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine	261	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
L-Lactic acid (2-hydroxy propionic acid)	Skin - Irritant	Rabbit	-	24 hours	-
BENZALKONIUM CHLORIDE	Skin - Severe irritant	Rabbit	-	25 milligrams	-
CITRIC ACID	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary

Skin : Based on Calculation method: Causes skin irritation.

Eyes : Based on Calculation method: Causes serious eye damage.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
L-Lactic acid (2-hydroxy propionic acid)	skin	Guinea pig	Not sensitizing
BENZALKONIUM CHLORIDE	skin	Guinea pig	Not sensitizing

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
BENZALKONIUM CHLORIDE	OECD 471 - Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 - Mammalian Chromosamal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 476 - Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Not applicable.				

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

SECTION 11: Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Not applicable.						

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Not applicable.				

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Not applicable.			

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
LAURYLAMINE DIPROPYLENEDIAMINE	Category 2	Oral	Not determined

Aspiration hazard

Product/ingredient name	Result
Not applicable.	

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

SECTION 11: Toxicological information

Potential chronic health effects

Conclusion/Summary : Based on available data, the classification criteria are not met.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
L-Lactic acid (2-hydroxy propionic acid)	Acute EC50 240000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 320000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 130 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
BENZALKONIUM CHLORIDE	Acute EC50 0.016 mg/l	Daphnia	48 hours
	Acute LC50 64 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic EC10 0.009 mg/l	Algae	72 hours
CITRIC ACID	Acute LC50 160000 µg/l Marine water	Crustaceans - Carcinus maenas - Adult	48 hours
LAURYLAMINE DIPROPYLENEDIAMINE	Acute EC50 0.073 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 0.68 mg/l	Fish	96 hours
	Acute LC50 0.45 ppm Fresh water	Fish - Lepomis macrochirus	96 hours

Conclusion/Summary : Based on Calculation method: Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
BENZALKONIUM CHLORIDE	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
CITRIC ACID	-1.8	-	low
LAURYLAMINE DIPROPYLENEDIAMINE	-	3.16	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

For long distance transport of bulk material or shrunk pallet take into consideration sections 7 and 10.

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3265	UN3265	UN3265	UN3265
14.2 UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Benzalkonium Chloride; N,N-Bis (3-aminopropyl) dodecylamine)	CORROSIVE LIQUID, N.O.S. (Benzalkonium Chloride; N,N-Bis (3-aminopropyl) dodecylamine	CORROSIVE LIQUID, N.O.S. (Benzalkonium Chloride; N,N-Bis (3-aminopropyl) dodecylamine)	Corrosive liquid, n.o.s. (Benzalkonium Chloride; N,N-Bis (3-aminopropyl) dodecylamine)
14.3 Transport hazard class(es)	8 	8 	8 	8 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADR/RID : **Hazard identification number** 88
Limited quantity 0
Special provisions 274
Tunnel code (E)

ADN : **Special provisions** 274

IMDG : **Emergency schedules** F-A, S-B
Special provisions 274

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 0.5 L. Packaging instructions: 850. Cargo Aircraft Only: 2.5 L. Packaging instructions: 854. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A3, A803

SECTION 14: Transport information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : None.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

15.2 Chemical Safety Assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Met. Corr. 1, H290 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	Expert judgment Calculation method Calculation method Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

H290	May be corrosive to metals.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Aquatic Chronic 3, H412	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Met. Corr. 1, H290	CORROSIVE TO METALS - Category 1
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2

This document complements the technical usage instructions but does not replace them. The information contained herein is based on our best current knowledge of the product concerned, and is given in good faith. The attention of recipients is drawn to (amongst other things) the element of risk consequent to use of the product other than that for which it was intended.

In no way does this document remove the need of the recipient of the product to fully understand and apply statutory requirements. It is the recipient's sole responsibility to take due precautions relative to the use made of the product. All information contained herein is only to assist the recipient in fulfilling their statutory duty connected with the use of hazardous materials.

This Document may be entitled Product Safety Data Sheet as required by REACH (Registration, Evaluation, Authorisation and restriction of Chemicals) Annex II OR Product Data Information Sheet where a product is not required to be supported by a full REACH compliant SDS (e.g. not classified as hazardous or out of scope, such as cosmetics).
Changes from the previous version are given in Section 1.

This list of information must not be considered as exhaustive, and does not exonerate the recipient from taking other precautions described in documents other than those mentioned, concerning the storage and use of the product, for which they remain the sole person responsible.