Diversey
A SOLENIS COMPANY

Safety Data Sheet

Virex II 256

Revision: 2025-03-04 **Version:** 02.0

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

1.1 Product identifier
Trade name: Virex II 256

1.2 Recommended use and restrictions on use
See product label.
For professional use only.

1.3 Details of the supplier of the safety data sheet
SOLENIS VIETNAM COMPANY LIMITED

Contact details
Level 4&5, M-Building, Lot C7B-02A, Block A, No.9 Street 8, Zone Saigon South New Urban Area, Tan Phu Ward, District 7, Ho Chi Minh City, VIETNAM
Tel. 0314996293

1.4 Emergency telephone number
In case of medical emergency, please seek professional medical advice.

SECTION 2: Composition/information on ingredients

2.1 Substances / Mixtures

Ingredient(s)	CAS number	EC number	Classification	Weight percent
Didecyldimethyl ammonium chloride	7173-51-5	230-525-2	Skin corrosion, Category 1B (H314) Acute toxicity - Oral, Category 4 (H302) Serious eye damage, Category 1 (H318) Acute aquatic toxicity, Category 1 M=10 (H400) Chronic aquatic toxicity, Category 2 (H411)	3-10
n-alkyl dimethyl benzyl ammonium chloride	68424-85-1	270-325-2	Skin corrosion, Category 1B (H314) Acute toxicity - Oral, Category 4 (H302) Serious eye damage, Category 1 (H318) Acute aquatic toxicity, Category 1 M=10 (H400) Chronic aquatic toxicity, Category 1 M=1 (H410)	3-10
ethanol	64-17-5	200-578-6	Flammable liquids, Category 2 (H225) Eye irritation, Category 2 (H319)	3-10
tetrasodium ethylene diamine tetraacetate	64-02-8	200-573-9	Acute toxicity - Oral, Category 4 (H302) Acute toxicity - Inhalation, Category 4 (H332) Specific target organ toxicity - Repeated exposure, Category 2 (H373) Serious eye damage, Category 1 (H318)	1-3
amines, coco alkyldimethyl, N-oxides	61788-90-7	263-016-9	Acute toxicity - Oral, Category 4 (H302) Skin irritation, Category 2 (H315) Serious eye damage, Category 1 (H318) Acute aquatic toxicity, Category 1 M=1 (H400) Chronic aquatic toxicity, Category 2 (H411)	1-3
Carbonic acid, sodium salt (2:3)	533-96-0	208-580-9	Acute toxicity - Oral, Category 4 (H302) Specific target organ toxicity - Single exposure, Category 3 (H335) Skin irritation, Category 2 (H315) Eye irritation, Category 2 (H319)	1-3

Workplace exposure limit(s), if available, are listed in subsection 8.1.
ATE, if available, are listed in section 11.

SECTION 3: Hazards identification

3.1 Classification of the substance or mixture
Skin corrosion, Category 1B
Serious eye damage, Category 1
Acute toxicity, oral, Category 4
Acute aquatic toxicity, Category 1
Chronic aquatic toxicity, Category 2

3.2 Label elements

Signal word: Danger.

Hazard statements:
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements:
P233 - Keep container tightly closed.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301 + P312 - IF SWALLOWED: Call a POISON CENTRE, doctor or physician if you feel unwell.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTRE, doctor or physician.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents and container in accordance with national regulations.

3.3 Other hazards
No other hazards known.

Recommended maximum concentration (% w/w): 0.39

Not classified as hazardous

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information:	Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident. If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.
Inhalation:	Remove person to fresh air and keep comfortable for breathing. Get medical attention or advice if you feel unwell.
Skin contact:	Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.
Eye contact:	Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.
Ingestion:	Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician. Get medical attention or advice if you feel unwell.
Self-protection of first aider:	Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	No known effects or symptoms in normal use.
Skin contact:	Causes severe burns.
Eye contact:	Causes severe or permanent damage.
Ingestion:	Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

4.3 Indication of any immediate medical attention and special treatment needed
No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
No special hazards known.

5.3 Advice for firefighters
As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear suitable protective clothing. Wear eye/face protection. Wear suitable gloves.

6.2 Environmental precautions
Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up
Dyke to collect large liquid spills. Absorb with liquid-binding material (sand, diatomite, universal binders). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections
For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Measures to prevent fire and explosions:
No special precautions required.

Measures required to protect the environment:
For environmental exposure controls see subsection 8.2.

Advice on general occupational hygiene:
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe spray. Do not eat, drink or smoke when using this product. Use only with adequate ventilation. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. Keep from freezing.
For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end use(s)
No specific advice for end use available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Workplace exposure limits

Air limit values, if available:

Ingredient(s)	Long term value(s)	Short term value(s)
ethanol	1000 mg/m³	3000 mg/m³

Biological limit values, if available:

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.
If available, please refer to the product information sheet for application and handling instructions.
Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:
Covering activities such as filling and transfer of product to application equipment, flasks or buckets

Appropriate engineering controls: If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

Personal protective equipment

Eye / face protection: Safety glasses or goggles (EN 16321). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

Hand protection: Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.
Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm
Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm
In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection: Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection: If exposure to liquid particles or splashes cannot be avoided use: half mask (EN 140) or full-face mask (EN 136) with particle filter P2 (EN 143) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen. Specific applications tools may be available to limit exposure. Please refer to the product information sheet for the possibilities. Apply technical measures to comply with the occupational exposure limits, if available.

Environmental exposure controls: Should not reach sewage water or drainage ditch undiluted or unneutralised.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 0.39

Appropriate engineering controls: Use only in well ventilated areas.
Appropriate organisational controls: No special requirements under normal use conditions.

Personal protective equipment

Eye / face protection: No special requirements under normal use conditions.
Hand protection: Rinse and dry hands after use. For prolonged contact protection for the skin may be necessary.
Body protection: No special requirements under normal use conditions
Respiratory protection: Trigger spray bottle application: No special requirements under normal use conditions. Apply technical measures to comply with the occupational exposure limits, if available.

Environmental exposure controls: No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

	Method / remark
Physical state: Liquid	
Colour: Clear , Blue	
Odour: Product specific	
Odour threshold: Not applicable	
pH: ≈ 10 (neat)	ISO 4316
Dilution pH: ≈ 9 (0.39 %)	ISO 4316
Melting point/freezing point (°C): Not determined	Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined	
Flammability (liquid): Not flammable.	
Flash point (°C): > 86 °C	closed cup
Sustained combustion: The product does not sustain combustion *(UN Manual of Tests and Criteria, section 32, L.2)*	Weight of evidence
Evaporation rate: Not determined	Not relevant to classification of this product
Flammability (solid, gas): Not applicable to liquids	
Lower and upper explosion limit/flammability limit (%): Not determined	
Vapour pressure: Not determined	
Relative density: ≈ 1.00 (20 °C)	OECD 109 (EU A.3)
Relative vapour density: No data available.	Not relevant to classification of this product
Particle characteristics: No data available.	Not applicable to liquids.
Solubility in / Miscibility with water: Fully miscible	
Partition coefficient: n-octanol/water No information available.	

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Autoignition temperature: Not determined
Decomposition temperature: Not applicable.
Kinematic viscosity: Not determined
Explosive properties: Not explosive. Vapours may form explosive mixtures with air.
Oxidising properties: Not oxidising.

9.2 Other information
Surface tension (N/m): Not determined
Corrosion to metals: Not corrosive

SECTION 10: Stability and reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid
None known under normal storage and use conditions.

10.5 Incompatible materials
None known under normal use conditions.

10.6 Hazardous decomposition products
None known under normal storage and use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture data: .

Relevant calculated ATE(s):
ATE - Oral (mg/kg): 1000
ATE - Inhalatory, mists (mg/l): >5

Skin irritation and corrosivity
Result: Skin corrosive 1B **Species:** Rabbit **Method:** EPA OPP 81-5
Eye irritation and corrosivity
Result: Eye damage 1 **Species:** Rabbit **Method:** OECD 405 (EU B.5)

Substance data, where relevant and available, are listed below:.

Acute toxicity
Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride	LD_{50}	238	Rat	Method not given	
n-alkyl dimethyl benzyl ammonium chloride	LD_{50}	304.5	Rat		
ethanol	LD_{50}	5000	Rat	OECD 401 (EU B.1)	
tetrasodium ethylene diamine tetraacetate	LD_{50}	1780	Rat	OECD 401 (EU B.1)	
amines, coco alkyldimethyl, N-oxides	LD_{50}	1064	Rat	OECD 401 (EU B.1)	
Carbonic acid, sodium salt (2:3)		No data available			

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride		No data available			
n-alkyl dimethyl benzyl ammonium chloride	LD_{50}	3412	Rabbit	Method not given	
ethanol	LD_{50}	> 10000	Rabbit	OECD 402 (EU B.3)	
tetrasodium ethylene diamine tetraacetate	LD_{50}	> 5000	Rabbit	Method not given	

amines, coco alkyldimethyl, N-oxides		No data available			
Carbonic acid, sodium salt (2:3)		No data available			

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride		No data available			
n-alkyl dimethyl benzyl ammonium chloride		No data available			
ethanol	LC_{50}	> 1800	Rat	Non guideline test	4
tetrasodium ethylene diamine tetraacetate	LC_{50}	≥ 1-5 (dust)	Rat	OECD 403 (EU B.2)	6
amines, coco alkyldimethyl, N-oxides		No data available			
Carbonic acid, sodium salt (2:3)		No data available			

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Didecyldimethyl ammonium chloride	Corrosive	Rabbit	OECD 404 (EU B.4)	
n-alkyl dimethyl benzyl ammonium chloride	Corrosive	Rabbit	Method not given	
ethanol	Not irritant	Rabbit	OECD 404 (EU B.4)	
tetrasodium ethylene diamine tetraacetate	Not irritant	Rabbit	OECD 404 (EU B.4)	
amines, coco alkyldimethyl, N-oxides	Irritant	Rabbit	OECD 404 (EU B.4)	
Carbonic acid, sodium salt (2:3)	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Didecyldimethyl ammonium chloride	Severe damage			
n-alkyl dimethyl benzyl ammonium chloride	Severe damage		Method not given	
ethanol	Irritant	Rabbit	OECD 405 (EU B.5)	
tetrasodium ethylene diamine tetraacetate	Severe damage		Method not given	
amines, coco alkyldimethyl, N-oxides	Severe damage	Rabbit	OECD 405 (EU B.5)	
Carbonic acid, sodium salt (2:3)	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
Didecyldimethyl ammonium chloride	No data available			
n-alkyl dimethyl benzyl ammonium chloride	No data available			
ethanol	No data available			
tetrasodium ethylene diamine tetraacetate	No data available			
amines, coco alkyldimethyl, N-oxides	No data available			
Carbonic acid, sodium salt (2:3)	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
n-alkyl dimethyl benzyl ammonium chloride	Not sensitising	Guinea pig	OECD 406 (EU B.6) / Buehler test	
ethanol	Not sensitising			
tetrasodium ethylene diamine tetraacetate	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	
amines, coco alkyldimethyl, N-oxides	Not sensitising	Guinea pig	OECD 406 (EU B.6)	
Carbonic acid, sodium salt (2:3)	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
Didecyldimethyl ammonium chloride	No data available			
n-alkyl dimethyl benzyl ammonium chloride	No data available			
ethanol	No data available			
tetrasodium ethylene diamine tetraacetate	No data available			
amines, coco alkyldimethyl, N-oxides	No data available			

Carbonic acid, sodium salt (2:3)	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
Didecyldimethyl ammonium chloride	No evidence of genotoxicity, negative test results	OECD 471 (EU B.12/13) OECD 473 OECD 476	No data available	
n-alkyl dimethyl benzyl ammonium chloride	No evidence of genotoxicity, negative test results	OECD 471 (EU B.12/13) OECD 476 OECD 473	No evidence of genotoxicity, negative test results	OECD 474 (EU B.12)
ethanol	No data available		No data available	
tetrasodium ethylene diamine tetraacetate	No evidence for mutagenicity, negative test results	Method not given	No evidence of genotoxicity, negative test results	Method not given
amines, coco alkyldimethyl, N-oxides	No data available		No data available	
Carbonic acid, sodium salt (2:3)	No data available		No data available	

Carcinogenicity

Ingredient(s)	Effect
Didecyldimethyl ammonium chloride	No data available
n-alkyl dimethyl benzyl ammonium chloride	No data available
ethanol	No data available
tetrasodium ethylene diamine tetraacetate	No evidence for carcinogenicity, weight-of-evidence
amines, coco alkyldimethyl, N-oxides	No data available
Carbonic acid, sodium salt (2:3)	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
Didecyldimethyl ammonium chloride			No data available				
n-alkyl dimethyl benzyl ammonium chloride			No data available				
ethanol			No data available				
tetrasodium ethylene diamine tetraacetate			No data available				No evidence for reproductive toxicity
amines, coco alkyldimethyl, N-oxides			No data available				
Carbonic acid, sodium salt (2:3)			No data available				

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
ethanol		No data available				
tetrasodium ethylene diamine tetraacetate		No data available				
amines, coco alkyldimethyl, N-oxides		No data available				
Carbonic acid, sodium salt (2:3)		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
ethanol		No data available				
tetrasodium ethylene diamine tetraacetate		No data available				
amines, coco alkyldimethyl, N-oxides		No data available				
Carbonic acid, sodium salt (2:3)		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
ethanol		No data available				
tetrasodium ethylene diamine tetraacetate		No data available				
amines, coco alkyldimethyl, N-oxides		No data available				
Carbonic acid, sodium salt (2:3)		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
Didecyldimethyl ammonium chloride			No data available					
n-alkyl dimethyl benzyl ammonium chloride			No data available					
ethanol			No data available					
tetrasodium ethylene diamine tetraacetate			No data available					
amines, coco alkyldimethyl, N-oxides			No data available					
Carbonic acid, sodium salt (2:3)			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
Didecyldimethyl ammonium chloride	No data available
n-alkyl dimethyl benzyl ammonium chloride	No data available
ethanol	No data available
tetrasodium ethylene diamine tetraacetate	No data available
amines, coco alkyldimethyl, N-oxides	No data available
Carbonic acid, sodium salt (2:3)	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
Didecyldimethyl ammonium chloride	No data available
n-alkyl dimethyl benzyl ammonium chloride	No data available
ethanol	No data available
tetrasodium ethylene diamine tetraacetate	Respiratory tract
amines, coco alkyldimethyl, N-oxides	No data available
Carbonic acid, sodium salt (2:3)	No data available

Aspiration hazard
Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms
Effects and symptoms related to the product, if any, are listed in subsection 4.2.

SECTION 12: Ecological information

12.1 Toxicity

No data is available on the mixture .

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity
Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride	LC_{50}	0.97	*Brachydanio rerio*	OECD 203 (EU C.1)	96
n-alkyl dimethyl benzyl ammonium chloride	LC_{50}	0.515	*Fish*	Method not given	96

ethanol	LC_{50}	8150	*Alburnus alburnus*	Method not given	96
tetrasodium ethylene diamine tetraacetate	LC_{50}	> 100	*Lepomis macrochirus*	OPP 72-1, static (EPA)	96
amines, coco alkyldimethyl, N-oxides	LC_{50}	2.67	*Pimephales promelas*	Method not given	96
Carbonic acid, sodium salt (2:3)		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride	EC_{50}	0.053	*Daphnia magna Straus*	OECD 202 (EU C.2)	48
n-alkyl dimethyl benzyl ammonium chloride	EC_{50}	0.016	*Daphnia*	Method not given	48
ethanol	EC_{50}	5012	*Daphnia magna Straus*	Method not given	48
tetrasodium ethylene diamine tetraacetate	EC_{50}	140	*Daphnia magna Straus*	DIN 38412, Part 11	48
amines, coco alkyldimethyl, N-oxides	EC_{50}	3.1	*Daphnia magna Straus*	OECD 202 (EU C.2)	48
Carbonic acid, sodium salt (2:3)		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
Didecyldimethyl ammonium chloride	EC_{50}	0.053	*Pseudokirchneriella subcapitata*	OECD 201 (EU C.3)	72
n-alkyl dimethyl benzyl ammonium chloride	EC_{50}	0.02	*Selenastrum capricornutum*	OECD 201 (EU C.3)	72
ethanol	EC_{50}	675	*Scenedesmus quadricauda Not specified*	Method not given	72
tetrasodium ethylene diamine tetraacetate	EC_{50}	> 100	*Scenedesmus obliquus*	88/302/EEC, Part C, static	72
amines, coco alkyldimethyl, N-oxides	EC_{50}	0.11	*Pseudokirchneriella subcapitata*	Method not given	72
Carbonic acid, sodium salt (2:3)		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
Didecyldimethyl ammonium chloride		No data available			
n-alkyl dimethyl benzyl ammonium chloride		No data available			
ethanol		No data available			
tetrasodium ethylene diamine tetraacetate		No data available			
amines, coco alkyldimethyl, N-oxides		No data available			
Carbonic acid, sodium salt (2:3)		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
Didecyldimethyl ammonium chloride		No data available			
n-alkyl dimethyl benzyl ammonium chloride	EC_{20}	5	*Activated sludge*	OECD 209	0.5 hour(s)
ethanol	EC_{0}	6500	*Pseudomonas putida*	Method not given	16 hour(s)
tetrasodium ethylene diamine tetraacetate	EC_{20}	> 500	*Activated sludge*	OECD 209	0.5 hour(s)
amines, coco alkyldimethyl, N-oxides		No data available			
Carbonic acid, sodium salt (2:3)		No data available			

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	Effects observed

		(mg/l)			time	
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
ethanol		No data available				
tetrasodium ethylene diamine tetraacetate	NOEC	> 25.7	*Brachydanio rerio*	OECD 210	35 day(s)	
amines, coco alkyldimethyl, N-oxides		No data available				
Carbonic acid, sodium salt (2:3)		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
Didecyldimethyl ammonium chloride	NOEC	> 0.01-0.1	*Daphnia magna*	OECD 211	21 day(s)	
n-alkyl dimethyl benzyl ammonium chloride	NOEC	0.025	*Daphnia magna*	OECD 211	21 day(s)	
ethanol		No data available				
tetrasodium ethylene diamine tetraacetate	NOEC	25	*Daphnia magna*	OECD 211	21 day(s)	
amines, coco alkyldimethyl, N-oxides		No data available				
Carbonic acid, sodium salt (2:3)		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
tetrasodium ethylene diamine tetraacetate	LD_{50}	156	*Eisenia fetida*	OECD 207	14	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				
tetrasodium ethylene diamine tetraacetate	NOEC	0.25 - 1.25			21	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
Didecyldimethyl ammonium chloride		No data available				
n-alkyl dimethyl benzyl ammonium chloride		No data available				

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
Didecyldimethyl ammonium chloride	No data available			
n-alkyl dimethyl benzyl ammonium chloride	No data available			
tetrasodium ethylene diamine tetraacetate	No data available			

Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
Didecyldimethyl ammonium chloride	No data available			
n-alkyl dimethyl benzyl ammonium chloride	No data available			
tetrasodium ethylene diamine tetraacetate	No data available			

Abiotic degradation - other processes, if available:

Ingredient(s)	Type	Half-life time	Method	Evaluation	Remark
Didecyldimethyl ammonium chloride		No data available			
n-alkyl dimethyl benzyl ammonium chloride		No data available			
tetrasodium ethylene diamine tetraacetate		No data available			

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT_{50}	Method	Evaluation
Didecyldimethyl ammonium chloride		Oxygen depletion	> 60%	OECD 301D	Readily biodegradable
n-alkyl dimethyl benzyl ammonium chloride		Oxygen depletion	> 60%	Read across	Readily biodegradable
ethanol	Activated sludge, aerobe	Oxygen depletion	> 60% in 10 day(s)	OECD 301B	Readily biodegradable
tetrasodium ethylene diamine tetraacetate				Weight of evidence	Not readily biodegradable.
amines, coco alkyldimethyl, N-oxides			> 93% in 28 day(s)	OECD 301D	Readily biodegradable
Carbonic acid, sodium salt (2:3)					Not applicable (inorganic substance)

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
Didecyldimethyl ammonium chloride					No data available
n-alkyl dimethyl benzyl ammonium chloride					No data available
tetrasodium ethylene diamine tetraacetate					No data available

Degradation in relevant environmental compartments, if available:

Ingredient(s)	Medium & Type	Analytical method	DT_{50}	Method	Evaluation
Didecyldimethyl ammonium chloride					No data available
n-alkyl dimethyl benzyl ammonium chloride					No data available
tetrasodium ethylene diamine tetraacetate					No data available

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
Didecyldimethyl ammonium chloride	No data available			
n-alkyl dimethyl benzyl ammonium chloride	0.004	Method not given	No bioaccumulation expected	at 20 °C
ethanol	-0.31	Weight of evidence	No bioaccumulation expected	
tetrasodium ethylene diamine tetraacetate	-3.86	Method not given	No bioaccumulation expected	

amines, coco alkyldimethyl, N-oxides	< 2.7			
Carbonic acid, sodium salt (2:3)	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
Didecyldimethyl ammonium chloride	2.1		Method not given	No bioaccumulation expected	
n-alkyl dimethyl benzyl ammonium chloride	79	*Lepomis macrochirus*		Low potential for bioaccumulation	
ethanol	0.5		Weight of evidence	No bioaccumulation expected	
tetrasodium ethylene diamine tetraacetate	1.8	*Lepomis macrochirus*	OECD 305	Low potential for bioaccumulation	
amines, coco alkyldimethyl, N-oxides	No data available				
Carbonic acid, sodium salt (2:3)	No data available				

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
Didecyldimethyl ammonium chloride	No data available				
n-alkyl dimethyl benzyl ammonium chloride	No data available				
ethanol	No data available				
tetrasodium ethylene diamine tetraacetate	No data available				Adsorption to solid soil phase is not expected
amines, coco alkyldimethyl, N-oxides	No data available				
Carbonic acid, sodium salt (2:3)	No data available				

12.5 Other adverse effects

No other adverse effects known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste from residues / unused products: The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

Empty packaging

Recommendation: Dispose of observing national or local regulations.

Suitable cleaning agents: Water, if necessary with cleaning agent.

SECTION 14: Transport information

Land transport, Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

14.1 UN number: 3267

14.2 UN proper shipping name:

Corrosive liquid, basic, organic, n.o.s. (alkyldimethylbenzylammoniumchloride , didecyldimethylammoniumchloride)

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 8

14.4 Packing group: II

14.5 Environmental hazards:

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6 Special precautions for user: None known.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: The product is not transported in bulk tankers.

Other relevant information:

IMO/IMDG

EmS: F-A, S-B

Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information

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

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

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Classification procedure
The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Abbreviations and acronyms:
• ATE - Acute Toxicity Estimate
• DNEL - Derived No Effect Limit
• EC50 - effective concentration, 50%
• ERC - Environmental release categories
• LC50 - Lethal Concentration, 50% / Median Lethal Concentration
• LCS - Life cycle stage
• LD50 - Lethal Dose, 50% / Median Lethal dose
• NOAEL - No observed adverse effect level
• NOEL - No observed effect level
• OECD - Organisation for Economic Cooperation and Development
• PNEC - Predicted No Effect Concentration
• PROC - Process categories
• H225 - Highly flammable liquid and vapour.
• H302 - Harmful if swallowed.
• H314 - Causes severe skin burns and eye damage.
• H315 - Causes skin irritation.
• H318 - Causes serious eye damage.
• H319 - Causes serious eye irritation.
• H332 - Harmful if inhaled.
• H335 - May cause respiratory irritation.
• H373 - May cause damage to organs through prolonged or repeated exposure.
• H400 - Very toxic to aquatic life.
• H410 - Very toxic to aquatic life with long lasting effects.
• H411 - Toxic to aquatic life with long lasting effects.

End of Safety Data Sheet