Safety Data Sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

Virocid

Version number: GHS 2.1
Replaces version of: 2019-05-17 (GHS 1)

Revision: 2023-01-02

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

1.1 Product identifier

Trade name: **FW203 Virocid**

Product code(s): 95575

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

Relevant identified uses: biocidal product

Uses advised against: Do not use for squirting or spraying in its concentrated form. Do not use for products which come into direct contact with the skin.

1.3 Details of the supplier of the safety data sheet

BÜFA Cleaning UK
Unit 3 Ripley Close
WF6 1TB Normanton, Wakefield
United Kingdom
Tel: +44 1924856390
E-mail: info@buefa.uk
Web: buefa-cleaning.uk

1.4 Emergency telephone number

Emergency information service: for emergency responders
This number is only for medical emergencies.

Poison centre

Country	Name	e-Mail
United Kingdom	National Poisons Information Service (NPIS)	director.birmingham.unit@npis.org

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	3	Flam. Liq. 3	H226
3.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
3.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.4R	respiratory sensitisation	1	Resp. Sens. 1	H334
3.4S	skin sensitisation	1	Skin Sens. 1	H317
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word danger

- Pictograms

GHS02, GHS05, GHS07, GHS08, GHS09

- Hazard statements

H226	Flammable liquid and vapour.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H400	Very toxic to aquatic life.

- Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P310	IF SWALLOWED: Rinse mouth and immediately call a POISON CENTER/doctor.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352+P312	IF ON SKIN: Wash with plenty of water/... and call a POISON CENTER/doctor if you feel unwell.
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.
P321	Specific treatment (see on this label).
P331	Do NOT induce vomiting.

- Hazardous ingredients for labelling: Glutaral, Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides, didecyl-dimethylammonium chloride

2.3 Other hazards

Results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes	Specific Conc. Limits	M-Factors
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	CAS No 68424-85-1 EC No 270-325-2	10 – < 25	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400				M-factor (acute) = 10
Glutaral	CAS No 111-30-8 EC No 203-856-5 Index No 605-022-00-X	10 – < 25	Acute Tox. 3 / H301 Acute Tox. 2 / H330 Skin Corr. 1B / H314 Resp. Sens. 1 / H334 Skin Sens. 1A / H317 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411			STOT SE 3; H335: C ≥ 0.5 %	
Didecyl-dimethylam-monium chlor-ide	CAS No 7173-51-5 EC No 230-525-2 Index No 612-131-00-6	5 – < 10	Acute Tox. 3 / H301 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411		GHS-HC		M-factor (acute) = 10
Propan-2-ol	CAS No 67-63-0 EC No 200-661-7 Index No 603-117-00-0	5 – < 10	Flam. Liq. 2 / H225 Eye Irrit. 2 / H319 STOT SE 3 / H336		GHS-HC		

Notes
GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	-	M-factor (acute) = 10	100 $^{mg}/_{kg}$ 300 $^{mg}/_{kg}$	oral dermal
Glutaral	STOT SE 3; H335: C ≥ 0.5 %	-	246 $^{mg}/_{kg}$ 0.5 $^{mg}/_{l}$/4h 0.28 $^{mg}/_{l}$/4h	oral inhalation: vapour inhalation: dust/mist
didecyldimethylammonium chloride	-	M-factor (acute) = 10	100 $^{mg}/_{kg}$	oral

For full text of H-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

Self-protection of the first aider

Provision of sufficient ventilation. Wear suitable protective clothing, gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO_2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO_2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance. Self-contained breathing apparatus (SCBA). SCBA with a chemical protection suit only where personal (close) contact is likely.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Provision of sufficient ventilation. Prevent skin contact. Avoid inhaling sprayed product. Collection and use of expertise.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

Control of effects

Protect from sunlight.

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- Packaging compatibilities

Keep only in original container. Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

Biocidal product.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Source
GB	glutaraldehyde	111-30-8		WEL	0.05	0.2	0.05	0.2			EH40/2005
GB	propan-2-ol	67-63-0		WEL	400	999	500	1,250			EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	DNEL	3.96 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	DNEL	5.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Glutaral	111-30-8	DNEL	6.25 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Didecyldimethylammonium chloride	7173-51-5	DNEL	18.2 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Didecyldimethylammonium chloride	7173-51-5	DNEL	8.6 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Propan-2-ol	67-63-0	DNEL	500 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Propan-2-ol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.001 mg/l	aquatic organisms	freshwater	short-term (single instance)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.001 mg/l	aquatic organisms	marine water	short-term (single instance)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	0.4 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	12.27 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	13.09 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	PNEC	7 mg/kg	terrestrial organisms	soil	short-term (single instance)
Glutaral	111-30-8	PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
Glutaral	111-30-8	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Glutaral	111-30-8	PNEC	0.8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Glutaral	111-30-8	PNEC	0.091 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Glutaral	111-30-8	PNEC	0.009 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Glutaral	111-30-8	PNEC	0.18 mg/kg	terrestrial organisms	soil	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	2 µg/l	aquatic organisms	freshwater	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	0.2 µg/l	aquatic organisms	marine water	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	0.595 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	2.82 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	0.28 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Didecyldimethylammonium chloride	7173-51-5	PNEC	1.4 mg/kg	terrestrial organisms	soil	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	marine water	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	2,251 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	552 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Propan-2-ol	67-63-0	PNEC	28 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. Use protective eyewear to guard against splash of liquids.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

PVC: polyvinyl chloride

- Material thickness

> 0.5 mm

- Breakthrough times of the glove material

>480 minutes (permeation: level 6)

- Other protection measures

Protective clothing against liquid chemicals. Footwear protecting against chemicals. Preventive skin protection (barrier creams/ointments) is recommended. Take recovery periods for skin regeneration. Wash hands thoroughly after handling.

Respiratory protection

Half mask (EN 140). Adequate particulate filter (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	clear - brown
Odour	like formaldehyde
Melting point/freezing point	-13.5 °C
Boiling point or initial boiling point and boiling range	93 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	2 vol% - 13 vol%
Flash point	60 °C
Auto-ignition temperature	395 °C (auto-ignition temperature (liquids and gases))
pH (value)	4

Kinematic viscosity	not determined

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available

Vapour pressure	6 kPa (calculated value, referring to a component of the mixture)

Density and/or relative density

Density	1.015 $^{kg}/_{l}$
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	there is no additional information

Other safety characteristics

Miscibility	Completely miscible with water.
VOC content	18.1 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

Acute toxicity

Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

- Acute toxicity estimate (ATE)

Oral	347.1 $^{mg}/_{kg}$
Dermal	1,786 $^{mg}/_{kg}$
Inhalation: vapour	4.717 $^{mg}/_{l}$/4h

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	oral	100 $^{mg}/_{kg}$
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	dermal	300 $^{mg}/_{kg}$
Glutaral	111-30-8	oral	246 $^{mg}/_{kg}$
Glutaral	111-30-8	inhalation: vapour	0.5 $^{mg}/_{l}$/4h
Glutaral	111-30-8	inhalation: dust/mist	0.28 $^{mg}/_{l}$/4h
Didecyldimethylammonium chloride	7173-51-5	oral	100 $^{mg}/_{kg}$

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	oral	LD50	795 $^{mg}/_{kg}$	rat
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	inhalation: dust/mist	LC50	0.22 $^{mg}/_{l}$/4h	rat
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	dermal	LD50	3,412 $^{mg}/_{kg}$	rabbit

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Glutaral	111-30-8	oral	LD50	246 $^{mg}/_{kg}$	rat
Glutaral	111-30-8	inhalation: dust/mist	LC50	0.28 – 0.39 $^{mg}/_{l}$/4h	rat
Glutaral	111-30-8	dermal	LD50	>2,000 $^{mg}/_{kg}$	rabbit
Didecyldimethylammonium chloride	7173-51-5	oral	LD50	329 $^{mg}/_{kg}$	rat
Didecyldimethylammonium chloride	7173-51-5	dermal	LD50	>1,000 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LC50	0.515 $^{mg}/_{l}$	fish	96 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	EC50	0.016 mg/l	aquatic invertebrates	48 h
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	ErC50	0.03 mg/l	algae	96 h
Glutaral	111-30-8	LC50	10 mg/l	fish	96 h
Glutaral	111-30-8	EC50	29.73 mg/l	aquatic invertebrates	48 h
Glutaral	111-30-8	ErC50	1.2 mg/l	algae	72 h
Didecyldimethylammonium chloride	7173-51-5	LC50	0.97 mg/l	fish	96 h
Didecyldimethylammonium chloride	7173-51-5	EC50	0.057 mg/l	aquatic invertebrates	48 h
Propan-2-ol	67-63-0	LC50	10,000 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	LC50	94 µg/l	fish	28 d
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	EC50	11 mg/l	microorganisms	30 min
Glutaral	111-30-8	EC50	80 mg/l	microorganisms	30 min
Didecyldimethylammonium chloride	7173-51-5	EC50	0.031 mg/l	aquatic invertebrates	21 d
Propan-2-ol	67-63-0	LC50	>10,000 mg/l	aquatic invertebrates	24 h

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	oxygen depletion	63 %	28 d		ECHA

Degradability of components of the mixture						
Name of substance	**CAS No**	**Process**	**Degradation rate**	**Time**	**Method**	**Source**
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	carbon dioxide generation	95.5 %	28 d		ECHA
Glutaral	111-30-8	DOC removal	90 – 100 %	28 d		ECHA
Glutaral	111-30-8	carbon dioxide generation	90 – 100 %	70 d		ECHA
Propan-2-ol	67-63-0	oxygen depletion	53 %	5 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	**CAS No**	**BCF**	**Log KOW**	**BOD5/COD**
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	79	0.004 (20 °C)	
Glutaral	111-30-8		-0.36 (pH value: 7, 23 °C)	
Didecyldimethylammonium chloride	7173-51-5		2.59 (pH value: 7, 20 °C)	
Propan-2-ol	67-63-0		0.05 (20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN 1760
IMDG-Code	UN 1760
ICAO-TI	UN 1760

14.2 UN proper shipping name

ADR/RID	CORROSIVE LIQUID, N.O.S.
IMDG-Code	CORROSIVE LIQUID, N.O.S.
ICAO-TI	Corrosive liquid, n.o.s.
Technical name (hazardous ingredients)	Alkyldimethylbenzylammoniumchloride, Glutaraldehyde

14.3 Transport hazard class(es)

ADR/RID	8
IMDG-Code	8
ICAO-TI	8

14.4 Packing group

ADR/RID	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

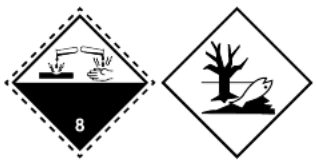
14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

Classification code	C9
Danger label(s)	8, fish and tree



Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2X

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

Classification code	C9
Danger label(s)	8, fish and tree

Environmental hazards	yes (hazardous to water)
Special provisions (SP)	274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	80

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment) (Alkyldimethylbenzylammoniumchloride)
Danger label(s)	8, fish and tree

Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-B
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	8

Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

None of the ingredients are listed.

Deco-Paint Directive

VOC content	18.1 %

Industrial Emissions Directive (IED)

VOC content	18.1 %

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Water Framework Directive (WFD)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

Chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	CAS No	Category / subcategory	Use limitation
didecyldimethylammonium chloride	7173-51-5	p(1)	b

Legend

b	Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation
p(1)	Sub-category: p(1) - pesticide in the group of plant protection products

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National inventories

Country	Inventory	Status
EU	REACH Reg.	all ingredients are listed

Legend

REACH Reg.	REACH registered substances

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.1	Registration number (REACH): not relevant (mixture)		yes
1.2	Uses advised against: Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin.	Uses advised against: Do not use for squirting or spraying in its concentrated form. Do not use for products which come into direct contact with the skin.	yes
1.3	Details of the supplier of the safety data sheet: Tristar Group Ettenseweg 34 4706 Roosendaal Netherlands Telephone: +31 88 - 588 01 00 Telefax: +31 88 - 588 01 50 e-mail: msds@tristargroup.eu Website: http://www.tristarindustries.net/	Details of the supplier of the safety data sheet: BÜFA Cleaning Netherlands B.V. Ettenseweg 34 4706 PB Roosendaal Netherlands Telephone: +31 885880100 e-mail: msds@buefa.nl Website: www.buefa-cleaning.nl	yes
2.2		- Precautionary statements: change in the listing (table)	yes
3.2		Description of the mixture: change in the listing (table)	yes
3.2		Description of the mixture: change in the listing (table)	yes
9.1	Appearance		yes
9.1	Other safety parameters		yes
9.1	Flammability (solid, gas): not relevant, (fluid)	Flammability: flammable liquid in accordance with GHS criteria	yes
9.1	Explosive limits	Lower and upper explosion limit: 2 vol% - 13 vol%	yes
9.1	Evaporation rate: not determined		yes
9.1	Lower explosion limit (LEL): 2 vol%		yes
9.1	Upper explosion limit (UEL): 13 vol%		yes
9.1		Kinematic viscosity: not determined	yes
9.1		Density and/or relative density	yes
9.1	Vapour density: this information is not available		yes
9.1	Viscosity: not determined		yes
9.1	Explosive properties: none		yes

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
9.1	Oxidising properties: none		yes
9.1		Relative vapour density: information on this property is not available	yes
9.1		Particle characteristics: not relevant (liquid)	yes
9.2		Information with regard to physical hazard classes: there is no additional information	yes
9.2		Other safety characteristics	yes
9.2		Miscibility: Completely miscible with water.	yes
11.1		- Acute toxicity estimate (ATE): change in the listing (table)	yes
11.2		Information on other hazards: There is no additional information.	yes
12.2		Degradability of components of the mixture: change in the listing (table)	yes
12.7	Other adverse effects	Other adverse effects: Data are not available.	yes
14.1	UN number: 1760	UN number or ID number	yes
14.1		ADR/RID: UN 1760	yes
14.1		IMDG-Code: UN 1760	yes
14.1		ICAO-TI: UN 1760	yes
14.2	UN proper shipping name: CORROSIVE LIQUID, N.O.S.	UN proper shipping name	yes
14.2		ADR/RID: CORROSIVE LIQUID, N.O.S.	yes
14.2		IMDG-Code: CORROSIVE LIQUID, N.O.S.	yes
14.2		ICAO-TI: Corrosive liquid, n.o.s.	yes
14.2	Technical name (hazardous ingredients): didecyldimethylammonium chloride, Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	Technical name (hazardous ingredients): Alkyldimethylbenzylammoniumchloride, Gluteraldehyde	yes
14.3	Class: 8 (corrosive substances) (environmentally hazardous)		yes
14.3		ADR/RID: 8	yes
14.3		IMDG-Code: 8	yes

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.3		ICAO-TI: 8	yes
14.4	Packing group: III (substance presenting low danger)	Packing group	yes
14.4		ADR/RID: III	yes
14.4		IMDG-Code: III	yes
14.4		ICAO-TI: III	yes
14.7	UN number: 1760		yes
14.7	Proper shipping name: CORROSIVE LIQUID, N.O.S.		yes
14.7	Class: 8		yes
14.7	Packing group: III		yes
14.7		Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information	yes
14.7		Classification code: C9	yes
14.7		Danger label(s): 8, fish and tree	yes
14.7		Danger label(s): change in the listing (table)	yes
14.7		Environmental hazards: yes (hazardous to water)	yes
14.7		Special provisions (SP): 274	yes
14.7		Excepted quantities (EQ): E1	yes
14.7		Limited quantities (LQ): 5 L	yes
14.7		Transport category (TC): 3	yes
14.7		Hazard identification No: 80	yes
14.7	UN number: 1760		yes
14.7	Proper shipping name: CORROSIVE LIQUID, N.O.S.		yes
14.7	Class: 8		yes

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.7	Packing group: III		yes
14.7	Marine pollutant: yes (hazardous to the aquatic environment)	Marine pollutant: yes (hazardous to the aquatic environment) (Alkyldimethylbenzylammoniumchloride)	yes
14.7	UN number: 1760		yes
14.7	Proper shipping name: Corrosive liquid, n.o.s.		yes
14.7	Class: 8		yes
14.7	Packing group: III		yes
15.1	Relevant provisions of the European Union (EU)	Relevant provisions of the European Union (EU): None of the ingredients are listed.	yes
15.1	List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list: none of the ingredients are listed		yes
15.1	Regulation 648/2004/EC on detergents		yes
15.1		Labelling of contents: change in the listing (table)	yes
15.1		Regulation on persistent organic pollutants (POP): None of the ingredients are listed.	yes
15.1		National inventories	yes
15.1		National inventories: change in the listing (table)	yes
16		Abbreviations and acronyms: change in the listing (table)	yes
16	Key literature references and sources for data: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	Key literature references and sources for data: Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).	yes
16		List of relevant phrases (code and full text as stated in section 2 and 3): change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval

Abbr.	Descriptions of used abbreviations
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Resp. Sens.	Respiratory sensitisation
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SCBA	Self-contained breathing apparatus
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.

Code	Text
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

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