

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

1.1. Product identifier

Product form : Mixture
Name : FRIONETT COIL CLEANER RTU
Product code : 100343500
Type of product : Detergent

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Cleaning product

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Dehon Service SAS
26 Avenue du Petit Parc
94683 VINCENNES Cedex - France
T 01 43 98 75 00 - F 01 43 98 21 51
ContactFDS@climalife.dehon.com

Other

Climalife Kft Budepesta sucursală Bucuresti Romania
Bulevardul Hristo Botev, Nr. 28,
Biroul NR 4, Modulul I
Bucuresti Sectorul 3 - Romania
ContactFDS@climalife.dehon.com

Other

Dehon Kälte-Fachvertriebs GmbH
Robert-Bosch-Strasse 14
40668 MEERBUSCH - Germany
T 00 49 2150 7073 0 - F 00 49 2150 7073 17
ContactFDS@climalife.dehon.com

Other

Friogas sa
Poligono Industrial SEPES
Parcela 10
46500 SAGUNTO (Valencia) - Spain
T 00 34 9 6 266 36 32 - F 00 34 9 6 266 50 25
ContactFDS@climalife.dehon.com

Other

Prochimac SA
Rue du Château 10
CH-2000 NEUCHÂTEL - Switzerland
T 00 41 32 727 36 00 - F 00 41 32 727 36 19
ContactFDS@climalife.dehon.com

Other

Climalife Hongrie Kft
Rét u. 2
2040 Budaörs - Hungary
T 00 36 23 431 660 - F 00 36 23 431 661
ContactFDS@climalife.dehon.com

Other

Climalife Supplied by Inventec Performance Chemicals Italia SRL
Via del Lavoro, 10/G
20874 Busnago MB - Italia
T +39 39-5973480 - F +39 39-5973490
ContactFDS@climalife.dehon.com

Other

Dehon nordic service
Östra Hamngatan 50B 3tr
41109 GÖTEBORG - Sweden
T 00 46 44 21 58 80 - F 00 46 44 21 58 80
ContactFDS@climalife.dehon.com

Other

Dehon Service Nerderland B.V.
Van Konijnenburgweg 84
NL-4612 PL Bergen Op Zoom - Netherlands
T 00 31 164 212 830 - F 00 31 164 212 831
ContactFDS@climalife.dehon.com

Other

Climalife Supplied by Inventec Performance Chemicals Italia SRL
Via del Lavoro, 10/G
20874 Busnago MB - Italia
T +39 39-5973480 - F +39 39-5973490
ContactFDS@climalife.dehon.com

1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Sens. 1 H317

Full text of hazard classes and H-statements : see section 16

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Adverse physicochemical, human health and environmental effects

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazardous ingredients :

N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]-β-alanine

Hazard statements (CLP) :

H317 - May cause an allergic skin reaction.

Precautionary statements (CLP) :

P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-(2-hydroxyethyl)-N-[2-[(1-oxooctyl)amino]ethyl]-β-alanine	(CAS-No.) 64265-45-8 (EC-No.) 264-761-2 (REACH-no) 01-0000020257-73	1 - 5	Eye Irrit. 2, H319 Skin Sens. 1B, H317
Disodium 2-hydroxyethyliminodi(acetate)	(CAS-No.) 135-37-5 (EC-No.) 205-187-4	1 - 5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Carc. 2, H351
potassium hydroxide	(CAS-No.) 1310-58-3 (EC-No.) 215-181-3 (EC Index-No.) 019-002-00-8 (REACH-no) 01-2119487136-33	0.1 - 1	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318
2-(2-butoxyethoxy)ethanol substance with a Community workplace exposure limit substance with national workplace exposure limit(s) (BE, CH, CZ, DE, ES, FI, FR, GB, HU, IT, NL, PL, PT, SE, SK)	(CAS-No.) 112-34-5 (EC-No.) 203-961-6 (EC Index-No.) 603-096-00-8 (REACH-no) 01-2119475104-44	0.1 - 1	Eye Irrit. 2, H319
ethanol; ethyl alcohol substance with national workplace exposure limit(s) (BE, CZ, DE, ES, FI, FR, GB, HU, NL, PL, PT, SE, SK)	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5 (REACH-no) 01-2119457610-43	0.1 - 1	Flam. Liq. 2, H225 Eye Irrit. 2, H319
2,2',2''-nitrilotriethanol substance with national workplace exposure limit(s) (BE, FI)	(CAS-No.) 102-71-6 (EC-No.) 203-049-8 (REACH-no) 01-2119486482-31	0.1 - 1	Not classified

Specific concentration limits:

Name	Product identifier	Specific concentration limits
potassium hydroxide	(CAS-No.) 1310-58-3 (EC-No.) 215-181-3 (EC Index-No.) 019-002-00-8 (REACH-no) 01-2119487136-33	(0.5 =<C < 2) Eye Irrit. 2, H319 (0.5 =<C < 2) Skin Irrit. 2, H315 (2 =<C < 5) Skin Corr. 1B, H314 (5 =<C < 100) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact

: Take off contaminated clothing. Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention.

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First-aid measures after eye contact	: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell. If possible show him this sheet. Failing this, show him the packaging or label.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid contact with skin and eyes.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate area.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment.
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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13: "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store : at room temperature.
Storage area	: The floor of the depot should be impermeable and designed to form a water-tight basin.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

potassium hydroxide (1310-58-3)

Belgium	Local name	Potassium (hydroxyde de)
Belgium	Short time value (mg/m ³)	2 mg/m ³
Belgium	Remark (BE)	M
Czech Republic	Local name	Hydroxid draselný
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³

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potassium hydroxide (1310-58-3)		
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	2 mg/m ³
Finland	Local name	Kaliumhydroksidi
Finland	HTP-arvo (15 min)	2 mg/m ³
France	Local name	Potassium (hydroxyde de)
France	VLE (mg/m ³)	2 mg/m ³
Germany	TRGS 910 Acceptable concentration notes	
Hungary	Local name	KÁLIUM-HIDROXID
Hungary	AK-érték	2 mg/m ³
Hungary	CK-érték	2 mg/m ³
Hungary	Megjegyzések (HU)	m; l.
Poland	Local name	Wodorotlenek potasu
Poland	NDS (mg/m ³)	0.5 mg/m ³
Poland	NDSch (mg/m ³)	1 mg/m ³
Portugal	Local name	Hidróxido de potássio
Portugal	OEL - Ceilings (mg/m ³)	2 mg/m ³
Spain	Local name	Hidróxido de potasio
Spain	VLA-EC (mg/m ³)	2 mg/m ³
Sweden	Local name	Potassium hydroxide inhalable dust
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³
United Kingdom	Local name	Potassium hydroxide
United Kingdom	WEL STEL (mg/m ³)	2 mg/m ³
Switzerland	Local name	Potasse caustique
Switzerland	MAK (mg/m ³)	2 mg/m ³

2-(2-butoxyethoxy)ethanol (112-34-5)		
EU	Local name	2-(2-Butoxyethoxy)ethanol
EU	IOELV TWA (mg/m ³)	67.5 mg/m ³
EU	IOELV TWA (ppm)	10 ppm
EU	IOELV STEL (mg/m ³)	101.2 mg/m ³
EU	IOELV STEL (ppm)	15 ppm
EU	Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Belgium	Local name	2-(2-Butoxyéthoxy)éthanol
Belgium	Limit value (mg/m ³)	67.5 mg/m ³
Belgium	Limit value (ppm)	10 ppm
Belgium	Short time value (mg/m ³)	101.2 mg/m ³
Belgium	Short time value (ppm)	15 ppm
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 11/03/2002
Czech Republic	Local name	2-(2-Buthoxyethoxy)-ethanol
Czech Republic	Expoziční limity (PEL) (mg/m ³)	70 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	10.6 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	100 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	15 ppm
Czech Republic	Remark (CZ)	I (dráždí sliznice (oči, dýchací cesty) resp. kůži)
Czech Republic	Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zapracovány změny č. 93/2012 Sb., 9/2013 Sb.)

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2-(2-butoxyethoxy)ethanol (112-34-5)		
Finland	Local name	2-(2-Butoksietoksi)etanoli
Finland	HTP-arvo (8h) (mg/m ³)	68 mg/m ³
Finland	HTP-arvo (8h) (ppm)	10 ppm
Finland	Regulatory reference	HTP-ARVOT 2016 (Sosiaali- ja terveysministeriö)
France	Local name	2-(2-butoxyéthoxy) éthanol
France	VME (mg/m ³)	67.5 mg/m ³
France	VME (ppm)	10 ppm
France	VLE (mg/m ³)	101.2 mg/m ³
France	VLE (ppm)	15 ppm
France	Note (FR)	Valeurs réglementaires indicatives
France	Regulatory reference	Arrêté du 30 juin 2004 modifié (réf.: INRS ED 984, 2016)
Germany	TRGS 900 Local name	2-(2-Butoxyethoxy)ethanol
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	67 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	TRGS 900 Limitation of exposure peaks	1,5(l)
Germany	TRGS 900 Remark	EU,DFG,Y,11
Germany	TRGS 900 Regulatory reference	TRGS900
Germany	TRGS 910 Acceptable concentration notes	
Hungary	Local name	2-(2-BUTOXIETOXI)ETANOL
Hungary	AK-érték	67.5 mg/m ³
Hungary	CK-érték	101.2 mg/m ³
Hungary	Megjegyzések (HU)	EU2
Italy	Local name	2-(2-Butossietossi)etanolo
Italy	OEL TWA (mg/m ³)	67.5 mg/m ³
Italy	OEL TWA (ppm)	10 ppm
Italy	OEL STEL (mg/m ³)	101.2 mg/m ³
Italy	OEL STEL (ppm)	15 ppm
Italy	Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Netherlands	Local name	2-(2-Butoxyethoxy)ethanol
Netherlands	Grenswaarde TGG 8H (mg/m ³)	50 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	100 mg/m ³
Netherlands	Remark (MAC)	H
Netherlands	Regulatory reference	Arbeidsomstandighedenregeling 2017
Poland	Local name	2-(2-Butoksyetoksy)etanol
Poland	NDS (mg/m ³)	67 mg/m ³
Poland	NDSCh (mg/m ³)	100 mg/m ³
Poland	Regulatory reference	Dz.U. 2014 poz. 817
Portugal	Local name	2-(2-ButoxiETOXI) etanol (éter dietilenoglicol monobutílico)
Portugal	OEL TWA (ppm)	10 ppm FIV (Fração inalável e vapor)
Slovakia	Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia	Local name	Butyldiglykol 2-(2-butoxyetoxy)etanol
Slovakia	NPHV (priemerná) (mg/m ³)	67.5 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	10 ppm

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2-(2-butoxyethoxy)ethanol (112-34-5)		
Slovakia	OEL STEL (mg/m ³)	101.2 mg/m ³
Slovakia	OEL STEL (ppm)	15 ppm
Slovakia	Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (Zmena: 300/2007 Z.z.; Zmena: 471/2011 Z.z.)
Spain	Local name	2-(2-Butoxiatoxi) etanol (Dietilenglicol monobutiléter)
Spain	VLA-ED (mg/m ³)	67.5 mg/m ³
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m ³)	101.2 mg/m ³
Spain	VLA-EC (ppm)	15 ppm
Spain	Notes	(2007), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país.). r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el "Reglamento (CE) n° 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos"(REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido.)
Spain	Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2017. INSHT
Sweden	Local name	Diethylene glycol mono-butyl ether
Sweden	nivågränsvärde (NVG) (mg/m ³)	100 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	15 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	200 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	30 ppm
Sweden	Regulatory reference	Hygieniska gränsvärden (AFS 2015:7)
United Kingdom	Local name	2-(2-Butoxyethoxy)ethanol
United Kingdom	WEL TWA (mg/m ³)	67.5 mg/m ³
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m ³)	101.2 mg/m ³
United Kingdom	WEL STEL (ppm)	15 ppm
United Kingdom	Regulatory reference	EH40. HSE
Switzerland	Local name	Butyldiglycol
Switzerland	MAK (mg/m ³)	67 mg/m ³
Switzerland	MAK (ppm)	10 ppm
Switzerland	KZGW (mg/m ³)	101.2 mg/m ³
Switzerland	KZGW (ppm)	15 ppm
Switzerland	Remark	4x15

ethanol; ethyl alcohol (64-17-5)		
Belgium	Local name	Alcool éthylique # Ethanol

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ethanol; ethyl alcohol (64-17-5)		
Belgium	Limit value (mg/m ³)	1907 mg/m ³
Belgium	Limit value (ppm)	1000 ppm
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 11/03/2002
Czech Republic	Local name	Ethanol (Ethylalkohol)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1000 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	530 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	3000 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	1600 ppm
Czech Republic	Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zpracovány změny č. 93/2012 Sb., 9/2013 Sb.)
Finland	Local name	Etanoli
Finland	HTP-arvo (8h) (mg/m ³)	1900 mg/m ³
Finland	HTP-arvo (8h) (ppm)	1000 ppm
Finland	HTP-arvo (15 min)	2500 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	1300 ppm
Finland	Regulatory reference	HTP-ARVOT 2016 (Sosiaali- ja terveystieteiden ministeriö)
France	Local name	Alcool éthylique
France	VME (mg/m ³)	1900 mg/m ³
France	VME (ppm)	1000 ppm
France	VLE (mg/m ³)	9500 mg/m ³
France	VLE (ppm)	5000 ppm
France	Note (FR)	Valeurs recommandées/admises
France	Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany	TRGS 900 Local name	Ethanol
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	960 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	500 ppm
Germany	TRGS 900 Limitation of exposure peaks	2(II)
Germany	TRGS 900 Remark	DFG;Y
Germany	TRGS 900 Regulatory reference	TRGS900
Germany	TRGS 910 Acceptable concentration notes	
Hungary	Local name	ETIL-ALKOHOL
Hungary	AK-érték	1900 mg/m ³
Hungary	CK-érték	7600 mg/m ³
Hungary	Megjegyzések (HU)	IV.
Netherlands	Local name	Ethanol
Netherlands	Grenswaarde TGG 8H (mg/m ³)	260 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	1900 mg/m ³
Netherlands	Remark (MAC)	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een Haanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Netherlands	Regulatory reference	Arbeidsomstandighedenregeling 2017
Poland	Local name	Etanol (alkohol etylowy)

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ethanol; ethyl alcohol (64-17-5)		
Poland	NDS (mg/m ³)	1900 mg/m ³
Poland	Regulatory reference	Dz.U. 2014 poz. 817
Portugal	Local name	Etanol (Álcool etílico)
Portugal	OEL STEL (ppm)	1000 ppm
Slovakia	Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia	Local name	Etylalkohol (etanol)
Slovakia	NPHV (priemerná) (mg/m ³)	960 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	500 ppm
Slovakia	OEL STEL (mg/m ³)	1920 mg/m ³
Slovakia	OEL STEL (ppm)	1000 ppm
Slovakia	Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (Zmena: 300/2007 Z.z.; Zmena: 471/2011 Z.z.)
Spain	Local name	Etanol (Alcohol etílico)
Spain	VLA-EC (mg/m ³)	1910 mg/m ³
Spain	VLA-EC (ppm)	1000 ppm
Spain	Notes	s (Esta sustancia tiene prohibida total o parcialmente su comercialización y uso como fitosanitario y/o como biocida. Para una información detallada acerca de las prohibiciones consúltese: Base de datos de productos biocidas: http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas Base de datos de productos fitosanitarios http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf).
Spain	Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2017. INSHT
Sweden	Local name	Etanol
Sweden	nivågränsvärde (NVG) (mg/m ³)	1000 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	500 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	1900 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	1000 ppm
Sweden	Anmärkning (SE)	V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Sweden	Regulatory reference	Hygieniska gränsvärden (AFS 2015:7)
United Kingdom	Local name	Ethanol
United Kingdom	WEL TWA (mg/m ³)	1920 mg/m ³
United Kingdom	WEL TWA (ppm)	1000 ppm
United Kingdom	Regulatory reference	EH40. HSE

2,2',2"-nitrilotriethanol (102-71-6)

Belgium	Limit value (mg/m ³)	5 mg/m ³
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Germany	TRGS 910 Acceptable concentration notes	

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

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Eye protection:
Safety glasses with side shields
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light yellow.
Odour	: No data available
Odour threshold	: No data available
pH	: 11.2
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.015 g/cm ³ (20°C)
Solubility	: In water, material soluble.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive material according to EC criteria.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

React in contact of Strong acids, halogens (F, Cl, Br, I), Alkaline earth metals.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

On thermal decomposition (pyrolysis), releases : Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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2-(2-butoxyethoxy)ethanol (112-34-5)	
LD50 oral rat	3384 mg/kg
LD50 dermal rabbit	2800 mg/kg
LC50 inhalation rat (mg/l)	55 - 60 mg/l/4h

2,2',2''-nitrilotriethanol (102-71-6)	
LD50 oral rat	6400 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	1.8 mg/l/8h

Skin corrosion/irritation	: Not classified pH: 11.2
Serious eye damage/irritation	: Not classified pH: 11.2
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

2,2',2''-nitrilotriethanol (102-71-6)	
NOAEL (chronic, oral, animal/male, 2 years)	250 mg/kg bodyweight
NOAEL (chronic, oral, animal/female, 2 years)	250 mg/kg bodyweight

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

2-(2-butoxyethoxy)ethanol (112-34-5)	
LOAEL (oral, rat, 90 days)	51 - 65 mg/kg bodyweight/day
NOAEL (oral, rat, 90 days)	<= 50 mg/kg bodyweight/day
NOAEC (inhalation, rat, gas, 90 days)	2 - 6 ppmv/6h/day

2,2',2''-nitrilotriethanol (102-71-6)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight/day
NOAEL (dermal, rat/rabbit, 90 days)	125 mg/kg bodyweight/day
NOAEL (subacute, oral, animal/male, 28 days)	0.5 mg/kg bodyweight
NOAEL (subacute, oral, animal/female, 28 days)	0.5 mg/kg bodyweight

Aspiration hazard	: Not classified
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

potassium hydroxide (1310-58-3)	
LC50 fish 1	80 mg/l Gambusia affinis (Mosquito fish)
LC50 fish 2	165 mg/l Poecilia reticulata
EC50 Daphnia 1	40 - 240 mg/l 48 Hours (Daphnia magna)

2-(2-butoxyethoxy)ethanol (112-34-5)	
LC50 fish 1	1300 mg/l 96 Hours (Lepomis macrochirus)

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LC50 fish 2	2750 mg/l 48 Hours (Leuciscus idus melanotus)
EC50 Daphnia 1	2850 mg/l 48 Hours (Daphnia magna)

2,2',2''-nitrilotriethanol (102-71-6)

LC50 fish 1	> 10000 mg/l 48 Hours (Leuciscus idus)
EC50 Daphnia 1	609.88 mg/l (Ceriodaphnia dubia)
EC50 other aquatic organisms 1	> mg/l
EC50 72h algae (1)	512 mg/l (Desmodesmus subspicatus)

12.2. Persistence and degradability

2-(2-butoxyethoxy)ethanol (112-34-5)

Persistence and degradability	Readily biodegradable.
Biodegradation	> 60 %

2,2',2''-nitrilotriethanol (102-71-6)

Persistence and degradability	Readily biodegradable.
Biodegradation	100 % (5 days)

12.3. Bioaccumulative potential

2-(2-butoxyethoxy)ethanol (112-34-5)

Log Kow	0.56
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2,2',2''-nitrilotriethanol (102-71-6)

Log Kow	-2.3 (25°C ; pH 7.1)
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12.4. Mobility in soil

2,2',2''-nitrilotriethanol (102-71-6)

Mobility in soil	Soluble in water
Log Koc	1

12.5. Results of PBT and vPvB assessment

Component

2-(2-butoxyethoxy)ethanol (112-34-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
potassium hydroxide (1310-58-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Ecology - waste materials	: Do not discharge into drains or the environment.
Switzerland - Recommendations	: Disposal according to the Technical Ordinance on Waste (TVA), the Ordinance on Movements of Waste (VeVA) and the DETEC Ordinance concerning lists for the movement of wastes (LVA).

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable

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14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable

No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

Detergent Regulation : Labelling of contents:	
Component	%
non-ionic surfactants, amphoteric surfactants, phosphonates, polycarboxylates	<5%

15.1.2. National regulations

France

Occupational diseases : RG 84 - Affections engendrées par les solvants organiques liquides à usage professionnel

Germany

Reference to AwSV : Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : 2-(2-butoxyethoxy)ethanol, ethanol; ethyl alcohol, 2,2',2"-nitrilotriethanol are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : ethanol; ethyl alcohol is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : ethanol; ethyl alcohol is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : ethanol; ethyl alcohol is listed

Switzerland

Swiss National Regulations : ORRChim RS 814.81.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.