

SAFETY DATA SHEET According to Regulation (EC) n. 1907/2006 and subsequent amendments	SDS-AMU-20_06
Amuchina Superfici Spray	Edition: 2 Revision: 00 Date of issue: Revision date:19/03/2020

SECTION 1
IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY /UNDERTAKING

1.1. Product identifier

Trade name:	Amuchina Superfici Spray
Product code:	419646 (packing 750 ml) GDO 419647 (packing 750 ml + refill 750 ml) GDO 419432 (packing 750 ml) PROF

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

Relevant identified use:	Bactericidal degreaser for surfaces.
Uses advised against:	There are no specific uses advised against.
Motivation for the use not recommended	

1.3. Details of the supplier of the safety data sheet

Distributor:	Aziende Chimiche Riunite Angelini Francesco A.C.R.A.F. Spa	
Address:	Viale Amelia 70 – 00181 Roma	
Phone number :	06 780531	
Fax number:	06 78053291	
Competent person responsible for the safety data sheet: sds_acraf@angelini.it		

1.4. Emergency telephone number

Hospital	City	Address	Postal Code	Telephone number
Univ. Foggia Hospital agency	Foggia	V.le Luigi Pinto, 1	71122	800183459
"A. Cardarelli" Hospital agency	Naples	Via A. Cardarelli, 9	80131	+39 081-472870
CAV Policlinico "Umberto I"	Rome	V.le del Policlinico, 155	00161	+39 06-49978000
CAV Policlinico "A. Gemelli"	Rome	Largo Agostino Gemelli, 8	00168	+39 06-3054343
"Careggi" U.O. Medical Toxicology Hospital agency	Florence	Largo Brambilla, 3	50134	+39 055-7947819
CAV National Toxicological Information Center	Pavia	Via Salvatore Maugeri, 10	27100	+39 0382-24444
Hosp. Niguarda Ca' Granda	Milan	Piazza Ospedale Maggiore,3	20162	+39 02-66101029
Pope John XXII Hospital agency	Bergamo	Piazza OMS, 1	24127	800883300

Out of Italy: National appointed body

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**SECTION 2
HAZARDS IDENTIFICATION**


2.1 Classification of the mixture

Classification of the mixture in accordance with Regulation (EC) n.. 1272/2008:

<i>Hazard class</i>	<i>Hazard class and category code</i>	<i>Hazard statements codes</i>	<i>Hazard statements</i>
Skin corrosion/skin irritation	Skin. Irritant 2	H315	Causes skin irritation.
Serious eye damage/eye irritation	Eye. Dam. 1	H318	Causes serious eye damage.
Hazardous to the aquatic environment - long-term (chronic) hazard	Aquatic. Chronic 3	H412	Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) n. 1272/2008:

Pictograms	
Signal word	Danger
Hazard statements	H315: Causes skin irritation. H318: Causes serious eye damage. H412: Harmful to aquatic life with long lasting effects.
Precautionary statements	(*) P101: If medical advice is needed, have product container or label at hand. (*) P102: Keep out of reach of children. (**) P280: Wear protective gloves. Eye protection/face protection. P273: Avoid release to the environment. P302 + P352: IF ON SKIN: Wash with plenty of water and soap. P305 + P351 +P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor. P501: Dispose of contents/ container in accordance with local regulation.
Supplemental information:	Composition (Reg. (EC) N.648/2004): non-ionic surfactants <5%; anionic surfactants <5%, EDTA <5%, perfume (linalool), disinfectant (N- (3-aminopropyl) -N-dodecylpropan-1,3-diamine) [CAS n. 2372-82-9].

(*) In the case of product codes sold to the public (code 419646-419647).

(**) In the case of product codes sold to professional users (code 419432).

2.3 Other hazards (which do not results in the classification)

The mixture satisfy the PBT criteria

- PBT
- vPvB

YES	NO
	X
	X

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SECTION 3
COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Name	EC Number	CAS Number	Conc. % (w/w)	Classification (1272/2008/EC) [1]	Occupational Exposure Limits
2-butoxyethanol Index n. 603-014-00-0 REACH Registration n. 01-2119475108-36	203-905-0	111-76-2	1,99- 2,01	Acute Tox. 4(*), H332 Acute Tox. 4(*), H312 Acute Tox. 4(*), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315	TLV-TWA : 98 mg/m3 TLV-STEL: 246 mg/m ³ (Directive 2000/39/CE) TLV - TWA: 20 ppm (ACGIH 2016)
Alcohols, C10-12, with 5EO	613-933-9	66455-15-0	0,995-1,005	Acute Tox. 4, H302 STOT SE 3, H335 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 3, H412	
Sodium Alkyl (C10-C16) sulphate	271-557-7	68585-47-7	1,045-1,055	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Irrit. 2, H315 STOT SE 3, H335 (may cause respiratory irritation) Aquatic Chronic 3, H412	
Sodium hydroxide Index n. 011-002-00-6 REACH Registration n. 01-2119457892-27	215-185-5	1310-73-2	1,095-1,105	Skin Corr. 1A Limiti specifici: Skin Corr. 1A; H314: C ≥ 5 % Skin Corr. 1B; H314: 2 % ≤ C < 5 % Skin Irrit. 2; H315: 0,5 % ≤ C < 2 % Eye Irrit. 2; H319: 0,5 % ≤ C < 2 %	TLV-Ceiling: 2 mg/m3 (ACGIH 2016)
tetrasodium ethylenediaminetetraacetate	200-573-9	64-02-8	0,199-0,201	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Dam. 1; H318 STOT RE 2; H373	
N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine (Lonzac 12.100)	219-145-8	2372-82-9	0,5970-0,6030	Acute Tox. 3, H301 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 (M =10) Aquatic Chronic 1, H410 (M =1)	TLV - TWA: 0,05 mg/m3 TLV - STEL: 0,4 mg/m3

See Section 8 of the present SDS.

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SECTION 4 FIRST AID MEASURES

4.1 Description of the first aid measures

<i>Eye contact:</i>	Rinse eyes with water for at least 15 minutes, lifting the upper and lower eyelids. Seek medical advice, if the irritation persists, possibly showing the SDS or the label of the product.
<i>Skin contact:</i>	Wash the affected skin with running water. If skin irritation persists, consult a physician
<i>Ingestion:</i>	Drink a lot of water, immediately. Do not induce vomiting, seek medical advice immediately showing the MSDS or label of the product.
<i>Inhalation:</i>	Move the person to fresh air in a well ventilated area. If irritation persists, consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

<i>Symptoms and effects acute</i>	Ingestion may cause irritation of the oral mucosa and upper part of the digestive tract. Ingestion in large quantities may cause blood pressure drops, anesthesia, narcosis, headache, dizziness, depression, hallucinations, dyspnoea, nausea and vomiting. Eye contact with the mixture/substance may cause eye damage. Repeated and prolonged skin contact can cause skin injury/corrosion. Inhalation of the product may cause nose and throat irritation, with cough and sore throat; possible symptoms of drowsiness and dizziness at high concentrations of vapors
<i>Symptoms and effects delayed:</i>	Symptoms and effects delayed are not known.

4.3 Indication of any immediate medical attention and special treatment needed

- <i>Contraindications:</i>	In case of ingestion, perform gastric lavage, followed by treatment with activated carbon; consider the need for hemodialysis.
- <i>Immediate treatment at workplace:</i>	Provide emergency eyewash stations

SECTION 5 FIREFIGHTING MEASURES

5.1 Extinguishing media

- <i>Suitable extinguishing media</i>	Water spray, CO ₂ , dry chemical, , alcohol-resistant foam.
- <i>Unsuitable extinguishing media</i>	Full jet water may be ineffective; use jets of water to cool the containers exposed to flames and heat.

5.2 Special hazards arising from the mixture

<i>Hazardous combustion products:</i>	By heating to high temperatures the product can decompose, releasing toxic fumes and gases containing CO _x , NO _x and other substances in case of incomplete combustion.
<i>Other special hazards:</i>	No other special hazards are foreseeable.

5.3 Advice for firefighters

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<i>Special protective equipment for fire-fighters and protection measures:</i> - <i>Special protective equipment for fire fighters</i>	Cool containers and the surrounding area with water. Wear self-contained breathing apparatus (SCBA), protective equipments for eyes and face, boots, gloves, complying with the relevant EN standards. Wear protective equipments for eyes and face, boots, gloves, complying with the relevant EN Europe standards and UNI for Italy. Use the devices in maximum precautionary conditions based on the information reported in previous subsections.
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SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Ventilate area. Remove all sources of ignition and heat.
In case of fire and/or explosion avoid breathing fumes and vapors.
Use suitable protective equipments (see section 8).

For emergency responders:

Wear appropriate protective equipment (see Section 8) to minimize exposure to the product.

6.2 Environmental precautions

In case of accidental release, prevent entry of the mixture into drains, surface water and ground water. If the product has entered waterways, sewers or has contaminated the soil, notify the relevant authorities.

6.3 Methods and material for containment and cleaning up

- <i>Containment procedures:</i> - <i>Clean-up procedures:</i>	Eliminate all flames and ignition sources. Ensure adequate ventilation. Stop the spill as much as possible. Stop the spill as possible; absorb the product with inert absorbent materials (e.g. vermiculite, sand or earth), wearing appropriate protective equipment, and put it in a dry and clean container. Wash the area with plenty of water.
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6.4 Reference to other sections

See also sections 8 and 13

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

<i>Recommendation for handling:</i> <i>Advice on general occupational hygiene:</i>	Avoid contact with skin, eyes and inhalation of the nebulized product. Do not eat, drink and smoke in the working areas. Remove contaminated clothing and personal protective equipments before entering eating areas.
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7.2. Condition for safe storage including any incompatibilities

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Appropriate risk management measures, that must be adopted at the workplace, have to be selected and applied, following the risks assessment carried out by the employer, in connection with his working activity (in accordance with Directive 98/24/EEC implemented by Legislative Decree 81 of 9 April 2008 and subsequent amendments).

Recommendations for storage: Do not expose to heat sources and direct sunlight.
Store in a cool and ventilated place. Protect from moisture.
Store in the original containers, tightly closed.

Incompatible materials: Avoid contact with oxidants and strong acids.

7.3. Specific end use(s)

SECTION 8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. Control parameters

Community/National Occupational Exposure values	Component CAS No.	2-Butoxyethanol ⁽¹⁾		Short exposure limit value	
		Limit value - 8 hours		ppm	mg/m ³
Limit values		ppm	mg/m ³	ppm	mg/m ³
	Australia	20	96,9	50	242
	Austria	20	98	40	200
	Belgium	20	98	50 (1)	246 (1)
	Canada - Ontario	20			
	Canada - Québec	20	97		
	Denmark	20	98	40	196
	European Union	20	98	50 (1)	246 (1)
	Finland	20	98	50 (1)	250 (1)
	France	10	49	50 (1)	246 (1)
	Germany (AGS)	10	49	40 (1)	196 (1)
	Germany (DFG)	10 (1)	49	20 (1)(2)	98 (2)
	Hungary		98		246
	Ireland	20	98	50 (1)	246 (1)
	Israel	20	97		
	Italy	20	98	50	246
	Japan (MHLW)	25			
	Latvia	20	98	50 (1)	246 (1)
	New Zealand	25	121		
	Poland		98		200
	Romania	20	98	50 (1)	246 (1)
	Singapore	25	121		
	South Korea	20	97		
	Spain	20	98	50	245
	Sweden	10	50	50 (1)	246 (1)
	Switzerland	10	49	20	98
	The Netherlands		100		246
	Turkey	20	98	50 (1)	246 (1)
	USA - NIOSH	5	24		
	USA - OSHA	50	240		

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United Kingdom	25	123	50	246
	Note:			
Belgium	Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air. (1) 15 minutes average value			
European Union	(1) 15 minutes average value Bold-type: Indicative Occupational Exposure Limit Value (IOELV) ~ (for references see bibliography)			
Finland	(1) 15 minutes average value			
France	Bold type: Restrictive statutory limit values Skin (1) 15 minutes average value			
Germany (AGS)	(1) 15 minutes average value			
Germany (DFG)	(1) MAK value applies for the sum of the concentrations of 2-Butoxyethanol and 2-Butoxyethylacetate in air (2) 15 minutes average value			
Ireland	(1) 15 minutes reference period			
Italy	skin			
Latvia	(1) 15 minutes average value			
Romania	(1) 15 minutes average value			
Spain	skin			
Sweden	(1) 15 minutes average value			
Turkey	(1) 15 minutes average value			
Componen	Sodium hydroxide ⁽¹⁾			
CAS No.	1310-73-2			
	Limit value - 8 hours		Short exposure limit value	
	ppm	mg/m ³	ppm	mg/m ³
Australia				2 (1)
Austria		2 inhalable aerosol		4 inhalable aerosol
Belgium		2 (1)		
Canada - Ontario				2 (1)
Canada - Québec				2 (1)
Denmark		2		2
Finland				2 (1)
France		2		
Hungary		2		2
Ireland				2 (1)
Japan (JSOH)		2 (1)		
Latvia		0,5		
New Zealand				2 (1)
People's Republic of China				2 (1)
Poland		0,5		1
Romania		1		3 (1)
Singapore				2
South Korea				2 (1)
Spain		2		
Sweden		1 (1)		2 (1)(2)
Switzerland		2 inhalable aerosol		2 inhalable aerosol
USA - NIOSH				2 (1)

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USA - OSHA	2
United Kingdom	2
	Remarks
Australia	(1) Ceiling limit value
Belgium	(1) Additional indication "M" means that irritation occurs when the exposure exceeds the limit value or there is a risk of acute poisoning. The work process must be designed in such a way that the exposure never exceeds the limit value. For evaluation, the sampled period should be as short as possible. However, the sampled period shall be long enough to perform a reliable measurement. The measured result shall be related to the considered period.
Canada - Ontario	(1) Ceiling limit value
Canada - Québec	(1) Ceiling limit value
Finland	(1) Ceiling limit value
Ireland	(1) 15 minutes reference period
Japan (JSOH)	(1) Occupational exposure limit ceiling: Reference value to the maximal exposure concentration of the substance during a working day
New Zealand	(1) Ceiling limit value
People's Republic of China	(1) Ceiling limit value
Romania	(1) 15 minutes average value
South Korea	(1) Ceiling limit value
Sweden	(1) Inhalable fraction (2) 15 minutes average value
USA - NIOSH	(1) Ceiling limit value (15 min)

Component:N-(3-Aminopropyl)-N-dodecylpropane-1,3-diamine ⁽¹⁾
CAS No. 2372-82-9

	Valore limite- 8 ore		Valore limite esposizione breve	
	ppm	mg/m ³	ppm	mg/m ³
Germany (AGS)		0,05 (1)		0,4 (1)(2)
Germany (DFG)		0,05 (1)		0,4 (1)(2)
Switzerland		0,05 (1)		0,4 (1)(2)

Note:

Germany (AGS)	(1) Inhalable fraction (2) 15 minutes average value
Germany (DFG)	(1) Inhalable fraction (2) 15 minutes average value
Switzerland	(1) Inhalable fraction (2) 15 minutes average value

8.2. Exposure controls

Appropriate risk management measures, that must be adopted at the workplace, have to be selected and applied, following the risks assessment carried out by the employer, in connection with his working activity (in accordance with Directive 98/24/EEC, implemented by Legislative Decree 81 of 9 April 2008 and subsequent amendments). If the results of this evaluation show that the general and collective prevention measures are not sufficient to reduce the risk, and if you cannot prevent exposure to the mixture by other means, adequate personal protective equipments must be adopted, complying with the relevant technical UNI/EN standards.

Eye/Face protection: In case of using with possible splashes, use face shield/protective goggles (ref. UNI 166/2004 and subsequent amendments).

Hands protection: Protective gloves, chemical-resistant according to EN 374/2017 and subsequent amendments.

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Respiratory protection: Not necessary, in normal use. Provide good general ventilation and avoid inhaling vapors/mists/aerosols. Otherwise, use APVR according to the risk assessment for the specific method of use.

Environmental exposure controls: Rif. 689:2019 and subsequent amendments.

**SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES**

9.1. Information on basic physical and chemical properties

Appearance: opaque white liquid
Odour: floral
pH: 12-14
Freezing point: not available
Boiling point: not available
Relative Density: 1,004 g/ml
Solubility in water: Soluble (water based solution)
Flash point: not available
Flammability: not determined
Explosive properties: not available

9.2. Other information

Not available

**SECTION 10
STABILITY AND REACTIVITY**

10.1. Reactivity

The mixture is stable under normal conditions of storage and use.

10.2. Chemical stability

The mixture is stable under normal conditions of storage and use.

10.3. Possibility of hazardous reactions

No hazardous reactions occur under normal conditions of storage and use.

10.4. Condition to avoid

Do not expose to direct sunlight, heat sources.

10.5. Incompatible materials

Avoid contact with strong oxidizing and reducing agents, strong acids and bases.
It can be corrosive to metals, avoid massive and prolonged contact and stick to the intended use; however, check its compatibility beforehand, on a small hidden area of the surface to be treated.

10.6. hazardous decomposition products

If heated at high temperatures the product may decompose and release toxic fumes COx, and other substances in case of incomplete decomposition.

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**SECTION 11
TOXICOLOGICAL INFORMATION**

Exposure routes:

- Inhalation:
- Ingestion:
- Skin contact:
- Eye contact:

YES	NO
X	
X	
X	
X	

Effects (acute, delayed, chronic) following the exposure (short and/or prolonged):

- Inhalation:* It may be corrosive to the mucous membranes
- Ingestion:* It may cause corrosion of the oral mucous membranes and the upper part of the digestive system.
- Skin contact:* Skin contact may cause irritation.
- Eye contact:* Serious eye damage can occur.

- Acute toxicity effects:

Oral:

- LD₅₀: 1300 mg/kg ⁽²⁾ 2-butoxyethanol
- LD₅₀ < 2000 mg/kg ⁽³⁾ Alcohols C10-C12 with 5EO
- LD₅₀ (rat) = 1780 mg/kg ⁽⁷⁾ Na₄EDTA
- DL50 (rat, female): 243,6 mg/kg ⁽⁵⁾ N,N-Bis(3-aminopropyl)dodecylamine

Dermal

- LD₅₀ : 1100 mg/kg ⁽²⁾ 2-butoxyethanol

Inhalation

- STA ihalation: 11 mg/L ⁽²⁾ 2-butoxyethanol
- LC₅₀ (rat) = 1-5mg/L ⁽⁴⁾ Na4EDTA

Corrosion/Irritation:

Skin:

- 2-butoxyethanol:* mildly irritating. ⁽²⁾
- Sodium Alkyl (C10-C16) sulphate:* causes skin irritation ⁽⁶⁾
- Sodium hydroxide:* corrosive. ⁽⁷⁾
- N,N-Bis(3-aminopropyl)dodecylamine:* corrosive (test on rabbits OECD 404). ⁽⁵⁾

Eye:

- 2-butoxyethanol:* irritating or seriously irritating (test on rabbit). ⁽²⁾
- Alcohols C10-C12 with 5EO:* causes serious eye damage. ⁽³⁾
- Sodium Alkyl (C10-C16) sulphate:* causes serious eye damage. ⁽⁶⁾
- N,N-Bis(3-aminopropyl)dodecylamine:* causes serious eye damage. ⁽⁵⁾
- Na4EDTA:* eye irritant. ⁽⁴⁾
- Sodium hydroxide:* even highly diluted solutions cause chemical irritation and burns. Based on available animal eye irritation data, NaOH appears to be non-irritating at concentrations of 0.2-1.0% and corrosive at concentrations above 1.2%. Splashes of the substance cause serious injury with sequelae in contact with the eyes (corneal opacity, glaucoma, cataract). ⁽⁷⁾

Sensitization:

Dermal:

The sensitizing components present in the perfume result in a concentration of less than 0.1% in the product to which the SDS is referred.

Respiratory:

Not available

Specific Target Organ Toxicity (STOT) – Single exposure:

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No specific target organ toxicity effects are reported following a single exposure to the mixture or to the individual components.

Specific Target Organ Toxicity (STOT) – Repeated exposure:

2-butoxyethanol: NOEC = 121 mg/m³ (study on inhaled rats). NOAEL = 150 mg/kg bw/d (study on rabbits, treated dermally for 13 weeks). LOAEL = 69 and 82 mg/kg bw/d, respectively for male and female rats, treated orally, through drinking water, for 13 weeks. Main negative effects observed (on rats and mice, regardless of the route of administration): hemolysis, in some cases associated with liver effects, such as pigmentation of Kupffer cells and increased liver weight, effects on the increase in body weight, on the pre-stomach, on lymphocyte subpopulations of T lymphocytes T. ⁽⁸⁾

Na₄EDTA: Inhalation route of exposure, may cause damage to organs through prolonged or repeated exposure. ⁽⁴⁾

Sodium hydroxide: Inhalation of aerosols can cause bronchopneumopathies. Nose and throat irritation, breathing difficulties. Repeated exposures can cause nasal bleeding. ⁽⁷⁾

N,N-Bis(3-aminopropyl)dodecylamine: in repeated dose toxicity studies (90 days), in rats, treated orally, adverse effects were observed mainly in the kidneys. (NOAEL = 7-8 mg / kg / d). (17) Oral NOAEL = 9 mg / kg (90-day rat OECD 408 study), Dermal NOAEL = 15 mg / kg (90-day rat study, method US EPA). ⁽⁵⁾

CMR effects:

Germinal cell mutagenicity:

2-butoxyethanol: based on the results of in vivo and in vivo tests, it can be concluded that 2-butoxyethanol does not pose a significant mutagenic potential. ⁽⁸⁾

Sodium hydroxide: in vitro and in vivo studies have not shown no evidence of mutagenic potential. ⁽⁷⁾

Sodium Alkyl (C10-C16) sulphate: no evidence of mutagenic potential in vitro and in vivo tests (Test di Ames, OCSE 471).

N,N-Bis(3-aminopropyl)dodecylamine: no evidence of mutagenic potential in vitro and in vivo tests (Test di Ames, OCSE 471). ⁽⁵⁾

Na₄EDTA: In vivo tests did not reveal mutagenic effects, Tests on bacterial or mammalian cell cultures showed no mutagenic effects. ⁽¹¹⁾

Carcinogenicity:

2-butoxyethanol: studies on rats and mice, exposed to 2-butoxyethanol vapours, showed that the substance induces forestomach tumours in female mice and haemangiosarcomas in the liver of male mice; and the incidence of tumors in rats is not significant. Given the species and sex specificity of the neoplastic responses and the current evidence supporting the hypothesis that the more likely mechanism of action is based on haematotoxicity, 2-butoxyethanol is unlikely to be a human carcinogen. IARC classifies 2-butoxyethanol as Group 3 (agent not classifiable as to its carcinogenicity to humans). ⁽⁸⁾

N,N-Bis(3-aminopropyl)dodecylamine: not carcinogenic. Application method: Dietetic. Species: Rat. Method: Guidelines 453 for the OECD Test. ⁽⁵⁾

Sodium hydroxide: in animal experiments, with long-term administration of high concentrations in drinking water, the substance was not found to be carcinogenic. ⁽⁷⁾

Sodium Alkyl (C10-C16) sulphate: no evidence of carcinogenic effecting studies on rats.

Alcohols C10-C12 with 5EO: studies on rats showed no carcinogenic effects. ⁽¹⁰⁾

Na₄EDTA: studies on rats and mice showed no carcinogenic effects, related to the treatment. ⁽⁹⁾

Reproductive toxicity:

2-butoxyethanol: studies on rats and mice did not show specific effects on fertility. Tests on animals, exposed via various administration routes, did not show any teratogenic potential, but foetotoxicity and embryotoxicity were often observed, often in relation to maternal toxicity (regenerative haemolytic anaemia). ⁽⁸⁾

Sodium Alkyl (C10-C16) sulphate: based on available information, there is no evidence of reproductive toxicity. ⁽⁶⁾

Alcohols C10-C12 with 5EO: based on available information, there is no evidence of reproductive toxicity. ⁽¹⁰⁾

Na₄EDTA: data from a multigeneration study on rats with CaNa₂EDTA, treated orally did not give evidence for adverse effects on reproductive performance for doses of up

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the maximum dose tested (250 mg/kg bw/d). In studies on rats, fetotoxic and teratogenic effects were observed at high exposure levels (about 1000 mg/kg bw/d and above).⁽⁹⁾

Aspiration hazards: no toxicity hazards are reported in case of aspiration.

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity for aquatic organisms:

Acute toxicity for fish:	LC50 (specie varie): 3,6 mg/l/96h	⁽⁶⁾ Sodium Alkyl (C10-C16) sulphate
	LC50 (specie varie)>1 – 10 mg/l/96h	⁽³⁾ Alcohols C10-C12 with 5EO
	LC50 (<i>Oncorhynchus mykiss</i>): 0,68 mg/l/96h	⁽⁵⁾ N,N–Bis(3-minopropyl)dodecylamine
	LC50 (<i>Lepomis macrochirus</i>): 0,45 mg/l/96h	
Acute toxicity for Daphnia Magna:	EC50: 4,7 mg/l/48h	⁽⁶⁾ Sodium Alkyl (C10-C16) sulphate
	LC50 >1 – 10 mg/l/48h	⁽³⁾ Alcohols C10-C12 with 5EO
	EC50: 0,037 mg/l/48h	⁽⁵⁾ N,N–Bis(3-minopropyl)dodecylamine
	NOEC: 0,024 mg/l/21d	
Acute toxicity for algae:	EC50 >20 mg/l/72h	⁽⁶⁾ Sodium Alkyl (C10-C16) sulphate
	LC50 (specie varie)>1 – 10 mg/l/72h	⁽³⁾ Alcohols C10-C12 with 5EO
	ECr10 (<i>Desmodesmus subspicatus</i>): 0,012 mg/l/72h	⁽⁵⁾ N,N–Bis(3-minopropyl)dodecylamine
	NOEC (<i>Desmodesmus subspicatus</i>): 0,0069 mg/l/72 h+6+6	

12.2. Persistence and degradability

2-butoxyethanol., *N,N–Bis(3-minopropyl)dodecylamine* they are easily biodegradable. ⁽²⁾⁽⁸⁾ *Ethoxylated alcohols*, with linear hydrocarbon chains from 8 to 15 carbon atoms and a number of ethoxyl units from 3 to 20, are readily biodegradable. ⁽¹⁰⁾ *Sodium Alkyl (C10-C16) sulphate* it is readily biodegradable. ⁽⁶⁾ EDTA is not readily biodegradable. ⁽⁹⁾

Sodium hydroxide: The high solubility in water and the low vapor pressure indicate that sodium hydroxide will be found mainly in the aquatic environment. The substance is present in the environment as sodium ions and hydroxyl ions, this implies that it does not adsorb on particulate matter or on surfaces and does not accumulate in living tissues. Atmospheric emissions of sodium hydroxide are rapidly neutralized by carbon dioxide or other acids and salts (e.g. sodium carbonate). ⁽¹¹⁾

12.3. Bioaccumulative potential

Based on the values of the octanol/water partition coefficient (Kow) or the bioconcentration factor (BCF) it is expected that *2-butoxyethanol* (Log Kow = 0.8), EDTA (BCF = 1.1 or 1.8) and *Sodium Alkyl (C10-C16) sulphate* (Log Pow ≤ -2.42) are not bioaccumulative. ⁽⁶⁾⁽²⁾ The most hydrophobic *ethoxylated alcohols* (e.g. C13 EO4, C14 EO4, and C16 EO8) have moderate bioaccumulation potential. ⁽³⁾ The potential for bioaccumulation of NaOH is not relevant. ⁽¹¹⁾

12.4. Mobility in soil

Based on the solubility/miscibility in water and/or the low Kow values, it is estimated that *2-butoxyethanol* and *N, N – Bis (3-minopropyl) dodecylamine*, show mobility in the soil. ⁽¹²⁾⁽¹³⁾ *NaOH* is very soluble and mobile in water; in soil, its mobility is a function of the percentage of liquid phase present and its ability to form hydroxy-complexes, especially with metal ions present.

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Sodium Alkyl (C10-C16) sulphate should not present mobility in the soil. ⁽⁶⁾

Given its ionic nature, in normal environmental pH conditions, *Na4EDTA* is not expected to be absorbed in sediments and in the soil. ⁽⁹⁾

12.5. Results of PBT e vPvB assessment

Chemical Safety Report and PBT assessment: not performed.

12.6. Other adverse effects

Other adverse effects are not expected.

SECTION 13 DISPOSAL CONSIDERATION

13.1. Waste treatment methods

Refer to Community/ National/ Local requirements concerning the waste disposal.

	Waste List Code	Type of waste
Unused product	16 03 05*	Organic wastes containing dangerous substances
Containers containing product residues	15 01 10*	Packaging containing residues of dangerous substances or contaminated by these substances
Plastic component empty containers	15 01 02	Plastic packaging

SECTION 14 TRANSPORT INFORMATION

Not classified for transportation

SECTION 15 REGULATORY INFORMATION

In this section, all other information on regulation are reported if not provided in other sections/subsection of the Safety Data Sheet.

15.1 Safety, Health and Environmental regulation/legislation specific for the mixture

- Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
- Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to personal protective equipment
- Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
- Direttiva 2012/18/UE del Parlamento europeo e del Consiglio del 4 luglio 2012 sul controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose, recante modifica e successiva abrogazione della direttiva 96/82/CE del Consiglio e recepimenti nazionali.
- D.Lgs. 26 giugno 2015, n. 105 “Attuazione della direttiva 2012/18/UE relativa al controllo del pericolo di incidenti rilevanti connessi con sostanze pericolose”.

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15.2. Chemical Safety Assessment

Not performed.

**SECTION 16
OTHER INFORMATION**

Revisions:

<i>ED</i>	<i>REV</i>	<i>Motivation</i>	<i>Date</i>
01	00	First Edition in accordance with Annex I of Regulation 453/2010/EU	30/11/2010
01	01	Periodic verification of section content 3. Modification of sections 8, 15 and 16.	30/07/2012
01	02	Modification of sections 2-16 for adaptation to Annex II of Regulation 453/2010/EU.	30/07/2014
01	03	Modification of sections 2, 3, 11 and 16	01/06/2015
01	04	Reissue of the previous revision for formal adaptation to Regulation 830/2015 / EU	31/07/2015
01	05	Modification of sections 13 and 16.	07/11/2016
01	06	Modification of section 2	03/02/2017
01	07	Modification of section 1: addition of code 419646 package 750 ml (replaces code 419430); addition code 419647 750 ml pack + 750 ml refill (replaces code 419433)	12/03/2018
01	08	Revision for adaptation to Regulation 776/2017 / EU	01/12/2018
02	00	Revision according to Annex II of EU Reg. 1907/2006 and subsequent amendments	19/03/2020

Literature references and sources for data:

- (1) GESTIS International Limit Values.
- (2) 2-butossietanolo, Scheda di dati di sicurezza, Revisione 3, data di revisione 05/01/2018, dal fornitore a monte della catena di approvvigionamento.
- (3) ROLFOR 1012/490, Scheda di sicurezza del 28/11/2011, revisione 1, dal fornitore a monte della catena di approvvigionamento.
- (4) Dissolvine E-39, Scheda di sicurezza del 02/12/2015, revisione 2, dal fornitore a monte della catena di approvvigionamento.
- (5) Lonzabac™ 12.100, Scheda di dati di sicurezza, Versione 1.2 / IT, Data di revisione 26/06/2018, dal fornitore a monte della catena di approvvigionamento.
- (6) Sulfetal LS a pH alto, Scheda di dati di sicurezza, Revisione 11, data di revisione 29/03/2017, dal fornitore a monte della catena di approvvigionamento.
- (7) Sodio idrossido, Scheda di dati di sicurezza, Revisione 6.0.3, data di revisione 04/03/2019 dal fornitore a monte della catena di approvvigionamento.
- (8) 2-butossietanolo, European Union Risk Assessment Report.
- (9) Etilidiaminetetraacetato di tetra sodio, Banca dati ECHA.
- (10) Human & Environmental Risk Assessment on ingredients of European household cleaning products, Alcohol Ethoxylates, Version 2.0, September 2009.
- (11) Sodio idrossido, Scheda di dati di sicurezza, Banca Dati del Ministero della Salute.
- (12) 2-butossietanolo, Banca dati ECHA
- (13) Lonzabac 12.100 (N-3-aminopropyl-N-dodecyl-1,3-propanediamine), National Industrial Chemicals Notification and Assessment Scheme - Full public report;

Acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADI : Admissible Daily Intake
- ADME (Adsorption, Distribution, Metabolism, Excretion)- ADR: Agreement concerning the carriage of dangerous goods by Road
- AEL : Admissible Exposure level
- BCF: Bioaccumulative factor
- BEI : Biological Exposure Indices (Indici di esposizione biologica)
- CAS: Chemical Abstract Service (division of the American Chemical Society)
- CLP: Classification, Labelling and Packaging
- CMR: Carcinogens, Mutagens, Toxic for re production substances

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- LC50: the concentration required to kill 50% of the members of a tested population in ecotoxicological tests
- LD0 : dose that does not cause any mortality of the tested population.
- LD50: median lethal dose, required to kill 50% of the members of a tested population.
- DNEL: Derived Non Effect Level - EINECS: European Inventory of existing Commercial Substances
- EPA: US Environmental Protection Agency
- GHS: Globally Harmonised System
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association Code
- IMDG: International Maritime Dangerous Goods Code
- IUPAC: International Union of Pure and Applied Chemistry
- LOEL: Lowest Observed Effect Level
- N.A.: Not Applicable
- N.A.: Not Available
- NOAEL: No Observed Adverse Effect Level)
- NOAL: No Observed Adverse Level
- NTP: National Toxicology Program
- OEL: Occupational Exposure Limit
- OSHA: Occupational Safety and Health Administration
- PPE : Personal protective Equipment
- PBT: Persistent, Bioaccumulative and Toxic substances
- PNEC: Predicted No Effective Concentration
- RID: Regulation concerning the International carriage of Dangerous goods by rail
- TLV/TWA: Threshold Limit Value/Threshold Weighted Average
- vPvB: very Persistent, very Bioaccumulative

Information concerning health, safety and environment, in accordance with Regulation (EC) No. 1272/2008:

List of hazards statements:

H290	May be corrosive to metals.
H301	Toxic if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
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.
H412	Harmful to aquatic life with long lasting effects

Information on workers training

Comply with the provisions of Directive 98/24/EC and subsequent SMI and national transpositions.

Recommended restrictions on use (per component): None.

Mixture / substance containing substance under Authorization: None.

Classification and method used for classification of mixture according to Regulation (EC) N. 1272/2008 (CLP):

<i>Classification according to Regulation (EC) n. 1272/2008:</i>	<i>Method for classification:</i>
Met. Corr.1, H290 Eye Dam. 1, H318	Chemical-physical properties.
Skin Irrit. 2, H315	Data on similar mixture
Aquatic. Chronic 3, H412	Calculation method

Classification of waste consisting of the unused product and criteria used to derive it, in accordance with the Regulation (UE) N.1357/2014 and subsequent amendments:

<i>Classification pursuant to Regulation (EU) No. 1357/2014 and subsequent amendments:</i>	<i>Classification criteria:</i>

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HP4- Irritant	Skin Corrosion > 1%
HP14- Ecotoxic	$100 \times \Sigma c (H410) + 10 \times \Sigma c (H411) + \Sigma c (H412) \geq 25 \%$

DISCLAIMER

This document aims to provide guidance for appropriate handling and precaution of this product by qualified personnel or operating under the supervision of personnel trained in handling chemicals. The product should not be used for purposes other than those mentioned in section 1, unless they are given adequate written information received on how to handle the material.

The provider of this document cannot provide any warnings related to the dangers of using, interaction with other materials or chemicals or user's safe use of the product, the suitability of the product for which is applied or its proper disposal. The information below should not be considered a declaration or guarantee, either expressed or implied, of merchantability, fitness for a particular purpose, quality, or any other. The information contained in this SDS are in accordance with Regulation (EC) n. 1907/2006 and subsequent amendments.