Safety data sheet
According to 1907/2006/EC (REACH), 2015/830/EU

NEUTRALIZATOR RDZY

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

1.1 Product identifier: NEUTRALIZATOR RDZY

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

Relevant uses: For use in rust and corrosion protection systems.

Uses advised against: All uses not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet:

Agencja Handlowa "BOLL" Wojciech Dalewski Spólka Jawna
ul. Chemiczna 3
65-713 Zielona Góra - Polska
Phone.: 68 451 99 99 - Fax: 68 451 99 00
technolog@boll.pl

1.4 Emergency telephone number:

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

CLP Regulation (EC) No 1272/2008:

Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.

Acute Tox. 4: Acute inhalation toxicity, Category 4, H332
Eye Irrit. 2: Eye irritation, Category 2, H319
Flam. Liq. 2: Flammable liquids, Category 2, H225
Skin Irrit. 2: Skin irritation, Category 2, H315
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335

2.2 Label elements:

CLP Regulation (EC) No 1272/2008:

Danger

Hazard statements:

H225 - Highly flammable liquid and vapour
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260: Do not breathe spray
P270: Do not eat, drink or smoke when using this product
P280: Wear protective gloves/eye protection
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312: Call a POISON CENTER/doctor if you feel unwell
P333+P313: If skin irritation or rash occurs: Get medical advice/attention

Supplementary information:

EUH066: Repeated exposure may cause skin dryness or cracking

2.3 Other hazards:

Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Non-applicable

3.2 Mixture:

Chemical description: Mixture composed of organic substances

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification		Concentration
CAS: 108-10-1 EC: 203-550-1 Index: 606-004-00-4 REACH: 01-2119473980-30-XXXX	**4-methylpentan-2-one**[1]	ATP CLP00	**30 - <50 %**
	Regulation 1272/2008	Acute Tox. 4: H332; Eye Irrit. 2: H319; Flam. Liq. 2: H225; STOT SE 3: H335; EUH066 - Danger	
CAS: 1330-20-7 EC: 215-535-7 Index: 601-022-00-9 REACH: 01-2119488216-32-XXXX	**Xylene**[1]	ATP CLP00	**10 - <20 %**
	Regulation 1272/2008	Acute Tox. 4: H312+H332; Flam. Liq. 3: H226; Skin Irrit. 2: H315 - Warning	
CAS: 108-65-6 EC: 203-603-9 Index: 607-195-00-7 REACH: 01-2119475791-29-XXXX	**2-methoxy-1-methylethyl acetate**[1]	ATP ATP01	**5 - <10 %**
	Regulation 1272/2008	Flam. Liq. 3: H226 - Warning	
CAS: 107-98-2 EC: 203-539-1 Index: 603-064-00-3 REACH: 01-2119457435-35-XXXX	**1-methoxy-2-propanol**[1]	ATP ATP01	**3 - <6 %**
	Regulation 1272/2008	Flam. Liq. 3: H226; STOT SE 3: H336 - Warning	
CAS: 64-18-6 EC: 200-579-1 Index: 607-001-00-0 REACH: 01-2119491174-37-XXXX	**Formic acid**[1]	ATP CLP00	**<2,5 %**
	Regulation 1272/2008	Skin Corr. 1A: H314 - Danger	
CAS: 78-83-1 EC: 201-148-0 Index: 603-108-00-1 REACH: 01-2119484609-23-XXXX	**Isobutanol**[1]	ATP CLP00	**1 - <2 %**
	Regulation 1272/2008	Eye Dam. 1: H318; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT SE 3: H335; STOT SE 3: H336 - Danger	
CAS: 71-36-3 EC: 200-751-6 Index: 603-004-00-6 REACH: 01-2119484630-38-XXXX	**1-butanol**[1]	Self-classified	**1 - <2 %**
	Regulation 1272/2008	Acute Tox. 4: H302; Eye Dam. 1: H318; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT SE 3: H335; STOT SE 3: H336 - Danger	

[1] Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No. 2015/830

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

Other information:

Identification	Specific concentration limit
Formic acid CAS: 64-18-6 EC: 200-579-1	% (w/w) >=90: Skin Corr. 1A - H314 10<= % (w/w) <90: Skin Corr. 1B - H314 2<= % (w/w) <10: Skin Irrit. 2 - H315 % (w/w) >=10: Eye Dam. 1 - H318 2<= % (w/w) <10: Eye Irrit. 2 - H319

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

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SECTION 4: FIRST AID MEASURES (continued)

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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

Acute and delayed effects are indicated in sections 2 and 11.

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

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO_2). IT IS RECOMMENDED NOT to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

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SECTION 7: HANDLING AND STORAGE (continued)

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,…) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 94/9/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 5 ºC

Maximum Temp.: 20 ºC

Maximum time: 24 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace

Identification	Environmental limits		
4-methylpentan-2-one	IOELV (8h)	20 ppm	83 mg/m³
CAS: 108-10-1 EC: 203-550-1	IOELV (STEL)	50 ppm	208 mg/m³
Xylene	IOELV (8h)	50 ppm	221 mg/m³
CAS: 1330-20-7 EC: 215-535-7	IOELV (STEL)	100 ppm	442 mg/m³
2-methoxy-1-methylethyl acetate	IOELV (8h)	50 ppm	275 mg/m³
CAS: 108-65-6 EC: 203-603-9	IOELV (STEL)	100 ppm	550 mg/m³
1-methoxy-2-propanol	IOELV (8h)	100 ppm	375 mg/m³
CAS: 107-98-2 EC: 203-539-1	IOELV (STEL)	150 ppm	563 mg/m³
Formic acid	IOELV (8h)	5 ppm	9 mg/m³
CAS: 64-18-6 EC: 200-579-1	IOELV (STEL)		

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
4-methylpentan-2-one	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 108-10-1	Dermal	Non-applicable	Non-applicable	-3,2 - 26,8 mg/kg	Non-applicable
EC: 203-550-1	Inhalation	193 - 223 mg/m³	193 - 223 mg/m³	68 - 98 mg/m³	68 - 98 mg/m³
Xylene	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 1330-20-7	Dermal	Non-applicable	Non-applicable	165 - 195 mg/kg	Non-applicable
EC: 215-535-7	Inhalation	274 - 304 mg/m³	274 - 304 mg/m³	62 - 92 mg/m³	Non-applicable

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
2-methoxy-1-methylethyl acetate	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 108-65-6	Dermal	Non-applicable	Non-applicable	138,5 - 168,5 mg/kg	Non-applicable
EC: 203-603-9	Inhalation	Non-applicable	Non-applicable	260 - 290 mg/m³	Non-applicable
1-methoxy-2-propanol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 107-98-2	Dermal	Non-applicable	Non-applicable	35,6 - 65,6 mg/kg	Non-applicable
EC: 203-539-1	Inhalation	Non-applicable	538,5 - 568,5 mg/m³	354 - 384 mg/m³	Non-applicable
Formic acid	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 64-18-6	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-579-1	Inhalation	Non-applicable	4 - 34 mg/m³	Non-applicable	-5,5 - 24,5 mg/m³
Isobutanol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 78-83-1	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 201-148-0	Inhalation	Non-applicable	Non-applicable	Non-applicable	295 - 325 mg/m³
1-butanol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 71-36-3	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-751-6	Inhalation	Non-applicable	Non-applicable	Non-applicable	295 - 325 mg/m³

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
4-methylpentan-2-one	Oral	Non-applicable	Non-applicable	-10,8 - 19,2 mg/kg	Non-applicable
CAS: 108-10-1	Dermal	Non-applicable	Non-applicable	-10,8 - 19,2 mg/kg	Non-applicable
EC: 203-550-1	Inhalation	Non-applicable	Non-applicable	-0,3 - 29,7 mg/m³	Non-applicable
Xylene	Oral	Non-applicable	Non-applicable	-13,4 - 16,6 mg/kg	Non-applicable
CAS: 1330-20-7	Dermal	Non-applicable	Non-applicable	93 - 123 mg/kg	Non-applicable
EC: 215-535-7	Inhalation	Non-applicable	Non-applicable	-0,2 - 29,8 mg/m³	Non-applicable
2-methoxy-1-methylethyl acetate	Oral	Non-applicable	Non-applicable	-13,33 - 16,67 mg/kg	Non-applicable
CAS: 108-65-6	Dermal	Non-applicable	Non-applicable	39,8 - 69,8 mg/kg	Non-applicable
EC: 203-603-9	Inhalation	Non-applicable	Non-applicable	18 - 48 mg/m³	Non-applicable
1-methoxy-2-propanol	Oral	Non-applicable	Non-applicable	-11,7 - 18,3 mg/kg	Non-applicable
CAS: 107-98-2	Dermal	Non-applicable	Non-applicable	3,1 - 33,1 mg/kg	Non-applicable
EC: 203-539-1	Inhalation	Non-applicable	Non-applicable	28,9 - 58,9 mg/m³	Non-applicable
Formic acid	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 64-18-6	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-579-1	Inhalation	Non-applicable	-5,5 - 24,5 mg/m³	Non-applicable	-12 - 18 mg/m³
Isobutanol	Oral	Non-applicable	Non-applicable	10 - 40 mg/kg	Non-applicable
CAS: 78-83-1	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 201-148-0	Inhalation	Non-applicable	Non-applicable	Non-applicable	40 - 70 mg/m³
1-butanol	Oral	Non-applicable	Non-applicable	-11,88 - 18,13 mg/kg	Non-applicable
CAS: 71-36-3	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-751-6	Inhalation	Non-applicable	Non-applicable	Non-applicable	40 - 70 mg/m³

PNEC:

Identification				
4-methylpentan-2-one	STP	12,5 - 42,5 mg/L	Fresh water	-14,4 - 15,6 mg/L
CAS: 108-10-1	Soil	-13,7 - 16,3 mg/kg	Marine water	-14,94 - 15,06 mg/L
EC: 203-550-1	Intermittent	-13,5 - 16,5 mg/L	Sediment (Fresh water)	-6,73 - 23,27 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-14,17 - 15,83 mg/kg

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification				
Xylene	STP	-8,42 - 21,58 mg/L	Fresh water	-14,67 - 15,33 mg/L
CAS: 1330-20-7	Soil	-12,69 - 17,31 mg/kg	Marine water	-14,67 - 15,33 mg/L
EC: 215-535-7	Intermittent	-14,67 - 15,33 mg/L	Sediment (Fresh water)	-2,54 - 27,46 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-2,54 - 27,46 mg/kg
2-methoxy-1-methylethyl acetate	STP	85 - 115 mg/L	Fresh water	-14,37 - 15,64 mg/L
CAS: 108-65-6	Soil	-14,71 - 15,29 mg/kg	Marine water	-14,94 - 15,06 mg/L
EC: 203-603-9	Intermittent	-8,65 - 21,35 mg/L	Sediment (Fresh water)	-11,71 - 18,29 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-14,67 - 15,33 mg/kg
1-methoxy-2-propanol	STP	85 - 115 mg/L	Fresh water	-5 - 25 mg/L
CAS: 107-98-2	Soil	-9,51 - 20,49 mg/kg	Marine water	-14 - 16 mg/L
EC: 203-539-1	Intermittent	85 - 115 mg/L	Sediment (Fresh water)	37,3 - 67,3 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-9,8 - 20,2 mg/kg
Formic acid	STP	-7,8 - 22,2 mg/L	Fresh water	-13 - 17 mg/L
CAS: 64-18-6	Soil	-13,5 - 16,5 mg/kg	Marine water	-14,8 - 15,2 mg/L
EC: 200-579-1	Intermittent	-14 - 16 mg/L	Sediment (Fresh water)	-1,6 - 28,4 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-13,66 - 16,34 mg/kg
Isobutanol	STP	-5 - 25 mg/L	Fresh water	-14,6 - 15,4 mg/L
CAS: 78-83-1	Soil	-14,93 - 15,07 mg/kg	Marine water	-14,96 - 15,04 mg/L
EC: 201-148-0	Intermittent	-4 - 26 mg/L	Sediment (Fresh water)	-13,48 - 16,52 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-14,85 - 15,15 mg/kg
1-butanol	STP	2461 - 2491 mg/L	Fresh water	-14,92 - 15,08 mg/L
CAS: 71-36-3	Soil	-14,99 - 15,02 mg/kg	Marine water	-14,99 - 15,01 mg/L
EC: 200-751-6	Intermittent	-12,75 - 17,25 mg/L	Sediment (Fresh water)	-14,82 - 15,18 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	-14,98 - 15,02 mg/kg

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.
All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	CE CAT III	EN 405:2001+A1:2009	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves	CE CAT III	EN 374-1:2003 EN 374-3:2003/AC:2006 EN 420:2003+A1:2009	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"

D.- Ocular and facial protection

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield	CE CAT II	EN 166:2001 EN 167:2001 EN 168:2001 EN ISO 4007:2012	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	CE CAT III	EN 1149-1,2,3 EN 13034:2005+A1:2009 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2001 EN ISO 6530:2005 EN ISO 13688:2013 EN 464:1994	For professional use only. Clean periodically according to the manufacturer´s instructions.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2002	 Eyewash stations	DIN 12 899 ISO 3864-1:2002

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 ºC:	Liquid
Appearance:	Fluid
Colour:	Amber
Odour:	Characteristic
Odour threshold:	Non-applicable *

Volatility:

Boiling point at atmospheric pressure:	>35 ºC
Vapour pressure at 20 ºC:	1540 Pa
Vapour pressure at 50 ºC:	55,39 (7,38 kPa)
Evaporation rate at 20 ºC:	Non-applicable *

Product description:

Density at 20 ºC:	930 kg/m³
Relative density at 20 ºC:	0,93
Dynamic viscosity at 20 ºC:	Non-applicable *
Kinematic viscosity at 20 ºC:	Non-applicable *
Kinematic viscosity at 40 ºC:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 20 ºC:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Partition coefficient n-octanol/water 20 ºC:	Non-applicable *
Solubility in water at 20 ºC:	Non-applicable *
Solubility properties:	Insoluble
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *
Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Flammability:	
Flash Point:	14 ºC
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	287 ºC
Lower flammability limit:	Not available
Upper flammability limit:	Not available
Explosive:	
Lower explosive limit:	Non-applicable *
Upper explosive limit:	Non-applicable *

9.2 Other information:

Surface tension at 20 ºC:	Non-applicable *
Refraction index:	Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Combustive materials	Combustible materials	Others
Not applicable	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Contains glycols. It is recommended not to breathe the vapours for prolonged periods of time due to the possibility of effects that are hazardous to the health .

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
  IARC: 4-methylpentan-2-one (2B); Xylene (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Repeated exposure may cause skin dryness or cracking

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
4-methylpentan-2-one	LD50 oral	2080 mg/kg	
CAS: 108-10-1	LD50 dermal	>2000 mg/kg	
EC: 203-550-1	LC50 inhalation	11 mg/L (4 h) (ATEi)	
Xylene	LD50 oral	2100 mg/kg	Rat
CAS: 1330-20-7	LD50 dermal	1100 mg/kg (ATEi)	Rat
EC: 215-535-7	LC50 inhalation	11 mg/L (4 h) (ATEi)	
2-methoxy-1-methylethyl acetate	LD50 oral	8532 mg/kg	Rat
CAS: 108-65-6	LD50 dermal	5100 mg/kg	Rat
EC: 203-603-9	LC50 inhalation	30 mg/L (4 h)	Rat

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
1-methoxy-2-propanol	LD50 oral	>2000 mg/kg	
CAS: 107-98-2	LD50 dermal	>2000 mg/kg	
EC: 203-539-1	LC50 inhalation	>20 mg/L (4 h)	
Formic acid	LD50 oral	>2000 mg/kg	
CAS: 64-18-6	LD50 dermal	>2000 mg/kg	
EC: 200-579-1	LC50 inhalation	>20 mg/L (4 h)	
Isobutanol	LD50 oral	3350 mg/kg	Rat
CAS: 78-83-1	LD50 dermal	2460 mg/kg	Rabbit
EC: 201-148-0	LC50 inhalation	24,6 mg/L (4 h)	Rat
1-butanol	LD50 oral	2292 mg/kg	Rat
CAS: 71-36-3	LD50 dermal	3400 mg/kg	Rabbit
EC: 200-751-6	LC50 inhalation	24,66 mg/L (4 h)	Rat

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:

Identification	Acute toxicity		Species	Genus
4-methylpentan-2-one	LC50	900 mg/L (48 h)	Leuciscus idus	Fish
CAS: 108-10-1	EC50	862 mg/L (24 h)	Daphnia magna	Crustacean
EC: 203-550-1	EC50	980 mg/L (48 h)	Scenedesmus subspicatus	Algae
Xylene	LC50	13.5 mg/L (96 h)	Oncorhynchus mykiss	Fish
CAS: 1330-20-7	EC50	3.4 mg/L (48 h)	Ceriodaphnia dubia	Crustacean
EC: 215-535-7	EC50	10 mg/L (72 h)	Skeletonema costatum	Algae
2-methoxy-1-methylethyl acetate	LC50	161 mg/L (96 h)	Pimephales promelas	Fish
CAS: 108-65-6	EC50	481 mg/L (48 h)	Daphnia sp.	Crustacean
EC: 203-603-9	EC50	Non-applicable		
1-methoxy-2-propanol	LC50	20800 mg/L (96 h)	Pimephales promelas	Fish
CAS: 107-98-2	EC50	23300 mg/L (48 h)	Daphnia magna	Crustacean
EC: 203-539-1	EC50	1000 mg/L (168 h)	Selenastrum capricornutum	Algae
Formic acid	LC50	175 mg/L (24 h)	Lepomis macrochirus	Fish
CAS: 64-18-6	EC50	120 mg/L (48 h)	Daphnia magna	Crustacean
EC: 200-579-1	EC50	26.9 mg/L (72 h)	Scenedesmus subspicatus	Algae
Isobutanol	LC50	2030 mg/L (96 h)	Carassius auratus	Fish
CAS: 78-83-1	EC50	1439 mg/L (48 h)	Daphnia magna	Crustacean
EC: 201-148-0	EC50	1250 mg/L (48 h)	Scenedesmus subspicatus	Algae
1-butanol	LC50	1740 mg/L (96 h)	Pimephales promelas	Fish
CAS: 71-36-3	EC50	1983 mg/L (48 h)	Daphnia magna	Crustacean
EC: 200-751-6	EC50	500 mg/L (96 h)	Scenedesmus subspicatus	Algae

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
4-methylpentan-2-one	BOD5	2.06 g O2/g	Concentration	100 mg/L
CAS: 108-10-1	COD	2.16 g O2/g	Period	14 days
EC: 203-550-1	BOD5/COD	0.95	% Biodegradable	84 %
Xylene	BOD5	Non-applicable	Concentration	Non-applicable
CAS: 1330-20-7	COD	Non-applicable	Period	28 days
EC: 215-535-7	BOD5/COD	Non-applicable	% Biodegradable	88 %
2-methoxy-1-methylethyl acetate	BOD5	Non-applicable	Concentration	785 mg/L
CAS: 108-65-6	COD	Non-applicable	Period	8 days
EC: 203-603-9	BOD5/COD	Non-applicable	% Biodegradable	100 %

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
1-methoxy-2-propanol	BOD5	Non-applicable	Concentration	100 mg/L
CAS: 107-98-2	COD	Non-applicable	Period	28 days
EC: 203-539-1	BOD5/COD	Non-applicable	% Biodegradable	90 %
Formic acid	BOD5	Non-applicable	Concentration	100 mg/L
CAS: 64-18-6	COD	Non-applicable	Period	14 days
EC: 200-579-1	BOD5/COD	Non-applicable	% Biodegradable	110 %
Isobutanol	BOD5	0.4 g O2/g	Concentration	100 mg/L
CAS: 78-83-1	COD	2.41 g O2/g	Period	14 days
EC: 201-148-0	BOD5/COD	0.17	% Biodegradable	90 %
1-butanol	BOD5	1.71 g O2/g	Concentration	Non-applicable
CAS: 71-36-3	COD	2.46 g O2/g	Period	19 days
EC: 200-751-6	BOD5/COD	0.69	% Biodegradable	98 %

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
4-methylpentan-2-one	BCF	2
CAS: 108-10-1	Pow Log	1.31
EC: 203-550-1	Potential	Low
Xylene	BCF	9
CAS: 1330-20-7	Pow Log	2.77
EC: 215-535-7	Potential	Low
2-methoxy-1-methylethyl acetate	BCF	1
CAS: 108-65-6	Pow Log	0.43
EC: 203-603-9	Potential	Low
1-methoxy-2-propanol	BCF	3
CAS: 107-98-2	Pow Log	-0.44
EC: 203-539-1	Potential	Low
Formic acid	BCF	3
CAS: 64-18-6	Pow Log	-0.54
EC: 200-579-1	Potential	Low
Isobutanol	BCF	3
CAS: 78-83-1	Pow Log	0.76
EC: 201-148-0	Potential	Low
1-butanol	BCF	1
CAS: 71-36-3	Pow Log	0.88
EC: 200-751-6	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
4-methylpentan-2-one	Koc	Non-applicable	Henry	Non-applicable
CAS: 108-10-1	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 203-550-1	Surface tension	2,35E-2 N/m (25 ºC)	Moist soil	Non-applicable
Xylene	Koc	202	Henry	524,86 Pa·m³/mol
CAS: 1330-20-7	Conclusion	Moderate	Dry soil	Yes
EC: 215-535-7	Surface tension	Non-applicable	Moist soil	Yes
Formic acid	Koc	Non-applicable	Henry	Non-applicable
CAS: 64-18-6	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 200-579-1	Surface tension	3,862E-2 N/m (25 ºC)	Moist soil	Non-applicable
Isobutanol	Koc	Non-applicable	Henry	Non-applicable
CAS: 78-83-1	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 201-148-0	Surface tension	2,378E-2 N/m (25 ºC)	Moist soil	Non-applicable

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
1-butanol	Koc	2.44	Henry	5,39E-2 Pa·m³/mol
CAS: 71-36-3	Conclusion	Very High	Dry soil	Yes
EC: 200-751-6	Surface tension	2,567E-2 N/m (25 ºC)	Moist soil	Yes

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
16 03 05*	organic wastes containing hazardous substances	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP3 Flammable, HP4 Irritant — skin irritation and eye damage, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, HP6 Acute Toxicity

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2017 and RID 2017:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (4-methylpentan-2-one)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	II
14.5	**Environmental hazards:**	No
14.6	**Special precautions for user**	
	Special regulations:	274, 601, 640D
	Tunnel restriction code:	D/E
	Physico-Chemical properties:	see section 9
	Limited quantities:	1 L
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 38-16:

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SECTION 14: TRANSPORT INFORMATION (continued)

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (4-methylpentan-2-one)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	II
14.5	**Environmental hazards:**	No
14.6	**Special precautions for user**	
	Special regulations:	274
	EmS Codes:	F-E, S-E
	Physico-Chemical properties:	see section 9
	Limited quantities:	1 L
	Segregation group:	Non-applicable
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2018:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (4-methylpentan-2-one)
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	II
14.5	**Environmental hazards:**	No
14.6	**Special precautions for user**	
	Physico-Chemical properties:	see section 9
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

SECTION 15: REGULATORY INFORMATION

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

Regulation (EC) No 528/2012: contains a preservative to protect the initial properties of the treated article. Contains Formic acid.

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Formic acid (Product-type 2, 3, 4, 5, 6, 11, 12)

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c		5000	50000

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):

Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

- CONTINUED ON NEXT PAGE -

SECTION 15: REGULATORY INFORMATION (continued)

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H225: Highly flammable liquid and vapour
H332: Harmful if inhaled
H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Acute Tox. 4: H302 - Harmful if swallowed
Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled
Acute Tox. 4: H332 - Harmful if inhaled
Eye Dam. 1: H318 - Causes serious eye damage
Eye Irrit. 2: H319 - Causes serious eye irritation
Flam. Liq. 2: H225 - Highly flammable liquid and vapour
Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage
Skin Irrit. 2: H315 - Causes skin irritation
STOT SE 3: H335 - May cause respiratory irritation
STOT SE 3: H336 - May cause drowsiness or dizziness

Classification procedure:

Flam. Liq. 2: Calculation method (2.6.4.3)
Acute Tox. 4: Calculation method
Skin Irrit. 2: Calculation method
Eye Irrit. 2: Calculation method
STOT SE 3: Calculation method

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

http://echa.europa.eu
http://eur-lex.europa.eu

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol–water partition coefficient
Koc: Partition coefficient of organic carbon

- END OF SAFETY DATA SHEET -