Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code: **DB1015A0 – DB1014A0 – DB1041A0**
Product name **DET & RINSE PLUS**
UFI: P500-Y034-J00S-YGF6

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

Intended use **Oven cleaner (EUPCS: PC-CLN-10.4).**

Identified Uses	Industrial	Professional	Consumer
Transfer to a container through a dedicated line (bottle/machine)	-	ERC: 8a. PROC: 8b. PC: 35. LCS: PW.	-

Uses Advised Against

Any use other than those identified.

1.3. Details of the supplier of the safety data sheet

Name **UNOX S.P.A.**
Full address **Via Majorana, 22**
District and Country **35010 Cadoneghe (PD)**
Italia
tel. +39 049 86.57.511
fax +39 049 86.57.555
e-mail address of the competent person
responsible for the Safety Data Sheet **Det.Rinse@unox.com**

1.4. Emergency telephone number

For urgent inquiries refer to **Verisk-3E**
Tel (+)1-760-476-3961
Tel (+)0-800-680-0425 (UK)
Access code: 334577
Hours: 24/7

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Substance or mixture corrosive to metals, category 1	H290	May be corrosive to metals.
Skin corrosion, category 1A	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.

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2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statements:

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves / protective clothing / eye protection / face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P310	Immediately call a POISON CENTER.

Contains: POTASSIUM HYDROXIDE
D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE

Ingredients according to Regulation (EC) No. 648/2004

Less than 5%	phosphonates, anionic surfactants, amphoteric surfactants
5% or over but less than 15%	non-ionic surfactants

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification (EC) 1272/2008 (CLP)**
POTASSIUM HYDROXIDE		
CAS 1310-58-3	5 ≤ x < 15	Met. Corr. 1 H290, Acute Tox. 4 H302, Skin Corr. 1A H314, Eye Dam. 1 H318
EC 215-181-3		Skin Corr. 1B H314: ≥ 2%, Skin Irrit. 2 H315: ≥ 0,5%, Eye Dam. 1 H318: ≥ 2%, Eye Irrit. 2 H319: ≥ 0,5%
INDEX 019-002-00-8		LD50 Oral: 333 mg/kg
REACH Reg. 01-2119487136-33-XXXX		

GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE
CAS 68515-73-1 5 ≤ x < 15 Eye Dam. 1 H318
EC 500-220-1
INDEX -
REACH Reg. 01-2119488530-36-XXXX

DIPROPYLENE GLYCOL MONOMETHYL ETHER
CAS 34590-94-8 5 ≤ x < 15 Substance with a community workplace exposure limit.
EC 252-104-2
INDEX -
REACH Reg. 01-2119450011-60-XXXX

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
CAS 51981-21-6 1 ≤ x < 4 Met. Corr. 1 H290
EC 257-573-7
INDEX -
REACH Reg. 01-2119493604-38-XXXX

ALKYL ETHER CARBOXYLIC ACID
CAS 53563-70-5 1 ≤ x < 4 Eye Dam. 1 H318, Skin Irrit. 2 H315
EC
INDEX -
REACH Reg. *

ALCOHOLS, C12-14 ETHOXYLATES / PROPOXYLATES (> 2.5 EO)
CAS 68439-51-0 1 ≤ x < 4 Aquatic Chronic 3 H412
EC 931-986-9
INDEX -
REACH Reg. *

The full wording of hazard (H) phrases is given in section 16 of the sheet.

ALKYL ETHER CARBOXYLIC ACID
Exempted: Polymer. See Article 2 (9) of Regulation (EC) No. 1907/2006.

ALCOHOLS, C12-14 ETHOXYLATES / PROPOXYLATES (> 2.5 EO)
* Exempted: polymer. See Article 2 (9) of Regulation (EC) no. 1907/2006.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful. Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. The vapors and/or powders are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours. Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness. If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.

4.3. Indication of any immediate medical attention and special treatment needed
Keep the safety data sheet of the preparation or, failing that, the label available for the medical personnel.

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SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Use the product exclusively in combination with the automatic aspiration and dilution system of the product supplied with the UNOX ovens. Frequency of use: up to 5 days / week. Duration of use: up to 10 minutes / day.

7.2. Conditions for safe storage, including any incompatibilities

The product is alkaline and may generate hydrogen gas if it comes in contact with metals such as aluminium, zinc and tin.
The hydrogen gas developed may cause combustion when the product is transferred to a metal container made from one of the metals indicated above, or which has been in contact with the same for an extended period of time.
If the hydrogen gas develops in a closed space, there may be a risk of explosion.

Store at a temperature between 5 ° C and 40 ° C.

Storage class TRGS 510 (Germany):
8A

7.3. Specific end use(s)

Follow the instructions on the product labeled or on the information sheet. Refer to the safe use information if enclosed with this safety data sheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ ``σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία``»
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum şi pentru modificarea şi completarea hotărârii guvernului nr. 1.093/2006
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

POTASSIUM HYDROXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	2				
VLA	ESP			2		
VLEP	FRA			2		
TLV	GRC	2		2		

GVI/KGVI	HRV			2			
WEL	GBR			2			
TLV-ACGIH				2 (C)			

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			1 mg/m3	VND			1 mg/m3	VND

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,1	mg/l
Normal value in marine water	0,01	mg/l
Normal value for fresh water sediment	0,487	mg/kg
Normal value for marine water sediment	0,048	mg/kg
Normal value for water, intermittent release	0,27	mg/l
Normal value of STP microorganisms	560	mg/l
Normal value for the terrestrial compartment	0,654	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			37,5 mg/kg/d	VND				
Inhalation			VND	420 mg/m3				
Skin			VND	357000 mg/kg/d			VND	595000 mg/kg/d

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	308	50			SKIN
AGW	DEU	310	50	310	50	
MAK	DEU	310	50	310	50	
VLA	ESP	308	50			SKIN
VLEP	FRA	308	50			SKIN
TLV	GRC	600	100	900	150	
GVI/KGVI	HRV	308	50			
VLEP	ITA	308	50			SKIN
VLE	PRT	308	50			SKIN
NDS/NDSCh	POL	240		480		
TLV	ROU	308	50			SKIN
MV	SVN	308	50			SKIN
WEL	GBR	308	50			SKIN
OEL	EU	308	50			SKIN
TLV-ACGIH		606	100	909 (C)	150 (C)	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	19	mg/l
Normal value in marine water	1,9	mg/l
Normal value for fresh water sediment	70,2	mg/kg
Normal value for marine water sediment	7,02	mg/kg
Normal value for water, intermittent release	190	mg/l
Normal value of STP microorganisms	4168	mgl
Normal value for the terrestrial compartment	2,74	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			VND	37,2 mg/m3			VND	310 mg/m3
Skin			VND	15 mg/kg/d			VND	65 mg/kg/d

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2	mg/l
Normal value in marine water	0,2	mg/l
Normal value for water, intermittent release	1	mg/l
Normal value of STP microorganisms	41,2	mg/l
Normal value for the food chain (secondary poisoning)	67	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,5 mg/kg bw/d				
Inhalation				1,8 mg/m3	55 mg/m3	55 mg/m3		7,3 mg/m3
Skin				7500 mg/kg bw/d				15000 mg/kg bw/d

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

The use of appropriate technical measures should always take priority over personal protection equipment. Provide a good level of general ventilation in the workplace (3 to 5 air changes per hour). The individual protection devices must bear the CE marking that certifies their compliance with the regulations in force.
Provide an emergency shower with face and eye wash station.

HAND PROTECTION
Protect your hands with category III work gloves (ref. Standard EN 374). For the final choice of material for work gloves, the following must be considered: compatibility, degradation, breakage time and permeation. Gloves have a wear time that depends on the duration and mode of use.
Suitable gloves (protection factor 6, permeation time> 480 minutes): material (thickness, mm): nitril rubber (0.35 mm), polychloroprene (0,5 mm), polyvinylchloride (0,5 mm).

SKIN PROTECTION
Wear category III professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap

and water after removing protective clothing.

EYE PROTECTION
Wear a hood visor or protective visor combined with airtight goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	straw yellow	
Odour	characteristic of solvent	Method:organoleptic
Odour threshold	not applicable	Reason for missing data:Not applicable to mixtures.
Melting point / freezing point	not determined	Reason for missing data:no test available
Initial boiling point	> 100 °C	
Flammability	not applicable (liquid product).	
Lower explosive limit	not applicable	Reason for missing data:The product is not explosive.
Upper explosive limit	not applicable	Reason for missing data:The product is not explosive.
Flash point	> 100 °C	
Auto-ignition temperature	270 °C	Substance:DIPROPYLENE GLYCOL MONOMETHYL ETHER
Decomposition temperature	not available	Reason for missing data:no test available
pH	14	Method:pH meter Concentration: 100 %
Kinematic viscosity	not available	Method:R1; 200 rpm Reason for missing data:Property not relevant for the purposes of hazard.
Dynamic viscosity	1-50 mPa.s	
Solubility	soluble in water	
Partition coefficient: n-octanol/water	not applicable	Reason for missing data:Not applicable to mixtures.
Vapour pressure	0,07 kPa	Substance:DIPROPYLENE GLYCOL MONOMETHYL ETHER
Density and/or relative density	1,10-1,25	
Relative vapour density	>1	Substance:DIPROPYLENE GLYCOL MONOMETHYL ETHER
Particle characteristics	not applicable	

9.2. Other information

No other information available.

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Evaporation rate	not determined	Reason for missing data:no test available
VOC (Directive 2010/75/EU)	5,50 %	
VOC (volatile carbon)	3,12 %	
Explosive properties	not applicable. None of the substances contained has functional groups associated with explosive properties.	
Oxidising properties	not applicable. None of the contained substances has functional groups associated with oxidizing properties.	

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Reacts violently with: strong acids.Develops hydrogen on contact with: aluminium alloys,copper alloys,zinc alloys,light metals.Reacts violently with: peroxides.

10.4. Conditions to avoid

Avoid contact with: strong acids,oxidising agents,light metals,copper alloys,zinc alloys,aluminium alloys.

10.5. Incompatible materials

Corrodes: aluminium,aluminium alloys,copper,copper alloys,zinc,zinc alloys.

Compatible materials: polyethylene,polypropylene,PVC.

Incompatible materials: aluminium.aluminium alloys,copper,copper alloys,zinc,zinc alloys.

Avoid contact with acids.

10.6. Hazardous decomposition products
If exposed to a fire, for thermal decomposition, leads to the formation of: carbon oxides, nitrogen oxides, sulfur oxides.

SECTION 11. Toxicological information

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In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information
Information not available

Information on likely routes of exposure
Dermal. Inhalation is not a significant source of exposure under intended conditions of use. It can only occur in unforeseen conditions of use when aerosols and / or droplets are formed.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful. Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. The vapors and/or powders are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours. Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness. If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.

Interactive effects
No interactive effects are known for the product and the substances it contains.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

POTASSIUM HYDROXIDE

LD50 (Oral):	333 mg/kg rat (OECD method 425 - Bruce R.D., Fund. Apll. Toxicol., 8, 97-100).

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE

LD50 (Dermal):	> 2000 mg/kg Coniglio, equivalente o simile a OECD linea guida 402
LD50 (Oral):	> 2000 mg/kg Ratto - OECD linea guida 423

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Dermal):	9500 mg/kg rabbit
LD50 (Oral):	5660 mg/kg rat

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE

LD50 (Dermal):	> 2000 mg/kg rat, (OECD 402).
LD50 (Oral):	> 2000 mg/kg rat (EC B.1).
LC50 (Inhalation vapours):	> 4,2 mg/l/4h rat (OECD 403).

ALKYL ETHER CARBOXYLIC ACID

LD50 (Oral):	> 2000 mg/kg rat

ALCOHOLS, C12-14 ETHOXYLATES / PROPOXYLATES (> 2.5 EO)

LD50 (Oral): > 2000 mg/kg

SKIN CORROSION / IRRITATION
Corrosive for the skin

Classification according to the experimental Ph value

POTASSIUM HYDROXIDE
Corrosive (OECD method 431 - Perkins M.A. et al., Fund. Appl. Toxicol., 31, 9-18).

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Not irritating (rabbit, OECD method 404).

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Not irritating (OECD method 404).

ALKYL ETHER CARBOXYLIC ACID
Causes skin irritation (supplier's data).

SERIOUS EYE DAMAGE / IRRITATION
Causes serious eye damage

POTASSIUM HYDROXIDE
Corrosive (OECD method 405 - Johnson g.t. et al, Toxicol. Appl. Pharmacol., 32, 239-245).

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Not irritating (J. Toxicol. Cutan. Ocul. Toxicol.2:229-242, 1984).

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Not irritating (OECD method 405).

ALKYL ETHER CARBOXYLIC ACID
Serious eye damages (supplier's data).

RESPIRATORY OR SKIN SENSITISATION
Does not meet the classification criteria for this hazard class

POTASSIUM HYDROXIDE
0,1% sodium hydroxide solutions have no sensitizin effects (Johnson G.T. et al, Toxicol. Appl. Pharmacol., 32, 239-245). As potassium hydroxide is corrosive further studies are not required.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
No sensitizing effects.

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Replaced version: 4.0 (Printed on: 21/09/2021)

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Not sensitizing (OECD method 406).

ALKYL ETHER CARBOXYLIC ACID
It is not a sensitizer (supplier data).

Respiratory sensitization
Information not available

Skin sensitization
Information not available

GERM CELL MUTAGENICITY
Does not meet the classification criteria for this hazard class

POTASSIUM HYDROXIDE
Ames test: negative (Fujita H et al, Kenkyu Nenpo-Tokyo-Toritsu Eisei Kenkyusho, 43, 219-227). No genotoxic effect known. The substance is not expected to be sistematically present in the body during usual manipulation and use conditions. For this reason further studies are not required.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Gene mutation: negative (OECD method 476).

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
In vitro genetic toxicity (Bacterial Reverse Mutation Test, Ames test): negative (OECD method 471).
In vitro genetic toxicity (In vitro Mammalian Cell Gene Mutation Test): negative (OECD method 476).
In vivo genetic toxicity (Mammalian Erythrocyte Micronucleus Test): negative (OECD method 474).
In vitro genetic toxicity (In Vitro Mammalian Chromosome Aberration Test): negative (OECD method 473).

ALKYL ETHER CARBOXYLIC ACID
In vito experiments (bacteria): negative (supplier data).
No mutagenic effect (Read-across)(supplier data).

CARCINOGENICITY
Does not meet the classification criteria for this hazard class

POTASSIUM HYDROXIDE
The substance is not expected to be sistematically present in the body during usual manipulation and use conditions. For this reason further studies are not required.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
No carcinogenic effect rvealed (OECD method 453).
TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
No adverse effect observed.

ALKYL ETHER CARBOXYLIC ACID
No carcinogenic effect known (supplier data).

REPRODUCTIVE TOXICITY
Does not meet the classification criteria for this hazard class

POTASSIUM HYDROXIDE
No adverse effect for reproduction known. The substance is not expected to be sistematically present in the body during usual manipulation and use conditions. For this reason further studies are not required.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Two-generation reproductivity test (OECD method 416):
NOAEL F1 = 300 ppm (inhalation)
NOAEL F2 = 1000 ppm (inhalation)

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
No adverse effect on fertility and development observed.

ALKYL ETHER CARBOXYLIC ACID
No toxic effect for reproduction known (supplier data).

Adverse effects on sexual function and fertility
Information not available

Adverse effects on development of the offspring
Information not available

Effects on or via lactation
Information not available

STOT - SINGLE EXPOSURE
Does not meet the classification criteria for this hazard class

DIPROPYLENE GLYCOL MONOMETHYL ETHER
On the basis of avialable data classification criteria are not met.

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Conclusive but not sufficient for classification.

Target organs
Information not available

Route of exposure
Information not available

STOT - REPEATED EXPOSURE
Does not meet the classification criteria for this hazard class

DIPROPYLENE GLYCOL MONOMETHYL ETHER
On the basis of avialable data classification criteria are not met.

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Conclusive but not sufficient for classification.

Target organs
Information not available

Route of exposure
Information not available

ASPIRATION HAZARD
Does not meet the classification criteria for this hazard class

DIPROPYLENE GLYCOL MONOMETHYL ETHER
On the basis of avialable data classification criteria are not met.

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Not applicable.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

POTASSIUM HYDROXIDE
Danger for environment is given by hydroxyl ion (pH effect). For this reason, the effects on organisms depends on the buffering capacity of the aquatic or terrestrial ecosystem. The high water solubility and the low vapour pressure indicates that the products is mainly present in the aquatic compartment. Toxic effects on aquatic organisms are mainly due to the pH.

POTASSIUM HYDROXIDE	
LC50 - for Fish	80 mg/l/96h Gambusia affinis
DIPROPYLENE GLYCOL MONOMETHYL ETHER	
LC50 - for Fish	> 10000 mg/l/96h Pesce
EC50 - for Crustacea	1919 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants	> 969 mg/l/72h Alga

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE

LC50 - for Fish	> 100 mg/l/96h Rainbow trout
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE

LC50 - for Fish	> 100 mg/l/96h Brachidanio rerio
EC50 - for Crustacea	> 10 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 10 mg/l/72h Scenedesmus subspicatus
Chronic NOEC for Fish	1,8 mg/l Brachydanio rerio
Chronic NOEC for Crustacea	1 mg/l Scenedesmus subspicatus

ALCOHOLS, C12-14 ETHOXYLATES / PROPOXYLATES (> 2.5 EO)

EC50 - for Crustacea	> 1 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 1 mg/l/72h Desmodesmus subspicatus
EC10 for Algae / Aquatic Plants	> 0,1 mg/l/72h Desmodesmus subspicatus

ALKYL ETHER CARBOXYLIC ACID

LC50 - for Fish	> 100 mg/l/96h OECD 203, Fish, Acute Toxicity Test.
EC50 - for Crustacea	> 100 mg/l/48h OECD 202, Daphnia sp. Acute Immobilization Test and Reproduction Test.
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h OECD 201, Alga, Growth Inhibition Test.

12.2. Persistence and degradability

POTASSIUM HYDROXIDE
Biodegradability: methods for the determination of biodegradability are not applicable to inorganic substances.

DIPROPYLENE GLYCOL MONOMETHYL ETHER
Rapidly degradable

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Rapidly degradable

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE
Rapidly degradable

ALCOHOLS, C12-14 ETHOXYLATES / PROPOXYLATES (> 2.5 EO)
Rapidly degradable

ALKYL ETHER CARBOXYLIC ACID
Rapidly degradable

12.3. Bioaccumulative potential

POTASSIUM HYDROXIDE
The n-octanol/water partitioning coefficient is not applicable.
TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
No data available indicating a potential for bioaccumulation (logKow<0).

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Partition coefficient: n-octanol/water < 0

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE
Partition coefficient: n-octanol/water < 1,77

12.4. Mobility in soil

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POTASSIUM HYDROXIDE
Very high.
TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Very high.

TETRASODIUM N,N-BIS(CARBOXYMETHYL)-L-GLUTAMATE
Partition coefficient: soil/water < 0
The product is completely soluble in water. High mobility in soil is expected.

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

No other significant adverse effects for the environment are known.

SECTION 13. Disposal considerations

13.1. Waste treatment methods
Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

The codes suggested below refer to the product intact and not subjected to manipulation and for its packaging when disposed of empty.
16 03 05 * - organic wastes containing dangerous substances
15 01 10 * - packaging containing residues of dangerous substances or contaminated by such substances

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: 1814

14.2. UN proper shipping name

ADR / RID:	POTASSIUM HYDROXIDE SOLUTION
IMDG:	POTASSIUM HYDROXIDE SOLUTION
IATA:	POTASSIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

ADR / RID: Class: 8 Label: 8

IMDG:	Class: 8	Label: 8
IATA:	Class: 8	Label: 8

14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Pass.:	Maximum quantity: 1 L	Packaging instructions: 851
	Special provision:	A3, A803	

14.7. Maritime transport in bulk according to IMO instruments
Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

Regulation (EC) No. 648/2004

Ingredients according to Regulation (EC) No. 648/2004

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

POTASSIUM HYDROXIDE

D-GLUCOPYRANOSE, OLIGOMER C8-C10 GLUCOSIDE

This safety data sheet contains one or more Exposure Scenarios in an integrated form. Contents have been included in sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1A	Skin corrosion, category 1A
Eye Dam. 1	Serious eye damage, category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

Use descriptor system:

ERC	**8a**	Widespread use of non- reactive processing aid (no inclusion into or onto article, indoor)
LCS	**PW**	Widespread use by professional workers
PC	**35**	Washing and cleaning products
PROC	**8b**	Transfer of substance or mixture (charging and discharging) at dedicated facilities

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)

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21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 09 / 10 / 11 / 12 / 15 / 16.