Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: **411 00 17780-4520**

Product name **TWO-COMPONENT NAUTICAL**

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

Intended use **Detergent for industrial washing and cleaning**

1.3. Details of the supplier of the safety data sheet

Name **Meccanocar Italia S.r.l.**

Full address **Via San Francesco, 22**

District and Country **56033 Capannoli (PI)**
Italy

Tel. +39 0587 609433

Fax +39 0587 607145

e-mail address of the competent person

responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**

1.4. Emergency telephone number

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

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 2015/830.
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.
Acute toxicity, category 4	H302	Harmful if swallowed.
Skin corrosion, category 1A	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.

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.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements:

P260 Do not breathe dust / fume / gas / mist / vapours / spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P280 Wear protective gloves/ protective clothing / eye protection / face protection.
P310 Immediately call a POISON CENTER / doctor.
P264 Wash hands thoroughly after handling.

Contains: GLICOL ETILENICO
SODIUM HYDROXIDE
ALCOHOLS, BRANCHED C11-13, ETHOXYLATED
2-BUTOXYETHANOL

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
SODIUM HYDROXIDE		
CAS 1310-73-2	16,5 ≤ x < 18	Skin Corr. 1A H314, Eye Dam. 1 H318
EC 215-185-5		
INDEX 011-002-00-6		
Reg. no. 01-2119457892-27-XXXX		
GLICOL ETILENICO		
CAS 107-21-1	16,5 ≤ x < 18	Acute Tox. 4 H302, STOT RE 2 H373
EC 203-473-3		
INDEX 603-027-00-1		
Reg. no. 01-2119456816-28-XXXX		

ALCOHOLS, BRANCHED C11-13, ETHOXYLATED		
CAS 68439-54-3	16,5 ≤ x < 18	Acute Tox. 4 H302, Eye Dam. 1 H318
EC 931-985-3		
INDEX -		
ETHYLENE DIAMINE TETRA ACETIC ACID		
CAS 60-00-4	8 ≤ x < 9	Eye Irrit. 2 H319
EC 200-449-4		
INDEX 607-429-00-8		
Reg. no. 01-2119486399-18-XXXX		
2-BUTOXYETHANOL		
CAS 111-76-2	4 ≤ x < 4,5	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		
INDEX 603-014-00-0		
Reg. no. 01-2119475108-36-XXXX		
PROPAN-2-OL		
CAS 67-63-0	4 ≤ x < 4,5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336
EC 200-661-7		
INDEX 603-117-00-0		
Reg. no. 01-2119457558-25-XXXX		

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

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 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. 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

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
EU	OEL EU	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 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

GLICOL ETILENICO

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	52	20	104	40	SKIN
VLEP	FRA	52	20	104	40	SKIN
WEL	GBR	52	20	104	40	SKIN
VLEP	ITA	52	20	104	40	SKIN
TLV	NOR	52	20			SKIN
VLE	PRT	52	20	104	40	SKIN
OEL	EU	52	20	104	40	SKIN
TLV-ACGIH				10		INHAL
TLV-ACGIH			25		50	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	37	mg/kg
Normal value for marine water sediment	3,7	mg/kg
Normal value of STP microorganisms	199,5	mg/l
Normal value for the terrestrial compartment	1,53	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			7 mg/m3				35 mg/m3	
Skin				53 mg/kg bw/d				106 mg/kg bw/d

SODIUM HYDROXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP			2		
VLEP	FRA	2				
WEL	GBR			2		
TLV	NOR	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				1 mg/m3

ETHYLENE DIAMINE TETRA ACETIC ACID

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		10				INHAL
TLV-ACGIH		3				RESP

Predicted no-effect concentration - PNEC		
Normal value in fresh water	2,2	mg/l
Normal value in marine water	0,22	mg/l
Normal value of STP microorganisms	43	mg/l
Normal value for the terrestrial compartment	0,72	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				25 mg/kg bw/d				
Inhalation	1,2 mg/m3		0,6 mg/m3		3 mg/m3		1,5 mg/m3	

PROPAN-2-OL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	500	200	1000	400	
VLEP	FRA			980	400	
WEL	GBR	999	400	1250	500	
TLV	NOR	245	100			
TLV-ACGIH		492	200	983	400	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	140,9	mg/l
Normal value in marine water	140,9	mg/l
Normal value for fresh water sediment	552	mg/kg
Normal value for marine water sediment	552	mg/kg

Normal value of STP microorganisms	2251	mg/l
Normal value for the food chain (secondary poisoning)	160	mg/kg
Normal value for the terrestrial compartment	28	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				26 mg/kg bw/d				
Inhalation				89 mg/m3				500 mg/m3
Skin				319 mg/kg bw/d				888 mg/kg bw/d

2-BUTOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	98	20	245	50	SKIN
VLEP	FRA	49	10	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
VLEP	ITA	98	20	246	50	SKIN
TLV	NOR	50	10			SKIN
VLE	PRT	98	20	246	50	SKIN
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	8,8	mg/l
Normal value in marine water	0,88	mg/l
Normal value for fresh water sediment	34,6	mg/kg
Normal value for marine water sediment	3,46	mg/kg
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	0,02	mg/kg
Normal value for the terrestrial compartment	2,33	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		26,7 mg/kg bw/d		6,3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3		59 mg/m3	246 mg/m3			98 mg/m3
Skin		89 mg/kg/d		75 mg/kg bw/d		89 mg/kg bw/d		125 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.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

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).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

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.

ETHYLENE DIAMINE TETRA ACETIC ACID

Respiratory protection: respiratory protection suitable for lower concentrations or short-term effect: particle filter with medium efficiency for solid and liquid particles (eg EN 143 or 149, type P2 or FFP2)
Hand protection: chemical resistant protective gloves (EN 374)
Suitable materials also with prolonged direct contact (Recommended: protection index 6, corresponding to> 480 minutes of breakthrough time according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinyl chloride (0.7 mm) and others
Eye protection: safety glasses with side shields (protective glasses) (eg EN 166)

PROPAN-2-OL

Respiratory protection: personal respiratory protection devices are normally not required. In inadequately ventilated areas, where workplace limits are exceeded, where there are unpleasant odors or where aerosols are present or smoke and fog occur, use a self-contained breathing apparatus or self-contained breathing apparatus with a type A filter or an appropriate combined filter, in compliance with EN 141.

Hand protection: the choice of an appropriate glove depends not only on its material but also on other quality characteristics and is different from one manufacturer to another. Observe the permeability and breakthrough time instructions provided by the glove supplier. Also take into consideration the specific local conditions in which the product is used, such as the danger of cuts, abrasions and contact times., Keep in mind that in daily use the durability of a chemical resistant protective glove can be considerably less than breakthrough time measured according to EN 374.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	bicolored
Odour	characteristic
Odour threshold	Not available
pH	14
Melting point / freezing point	0 °C
Initial boiling point	100 °C
Boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1
Solubility	soluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 100 °C
Decomposition temperature	>100
Viscosity	min 5 cSt
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

VOC (Directive 2010/75/EC) : 8,00 % - 80,00 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

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

GLICOL ETILENICO

In the air absorbs moisture.Decomposes at temperatures above 200°C/392°F.

ETHYLENE DIAMINE TETRA ACETIC ACID

The acid is less stable than its salts and tends to decarboxylate at over 150°C/302°F. It is an antioxidant, aqueous suspensions react with acids to develop CO2 from carbonates and hydrogen from metals.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

10.2. Chemical stability

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

SODIUM HYDROXIDE

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

GLICOL ETILENICO

Risk of explosion on contact with: perchloric acid.May react dangerously with: chlorosulphuric acid,sodium hydroxide,sulphuric acid,phosphorus pentasulphide,chromium (III) oxide,chromyl chloride,potassium perchlorate,potassium dichromate,sodium peroxide,aluminium.Forms explosive mixtures with: air.

SODIUM HYDROXIDE

- Emits hydrogen by reaction with metals.
- Exothermic reaction with strong acids.
- Risk of violent reaction.
- Risk of explosion.
- Reacts violently with water.

PROPAN-2-OL

Vapors can form an explosive mixture with air.

2-BUTOXYETHANOL

May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

GLICOL ETILENICO

Avoid exposure to: sources of heat,naked flames.

SODIUM HYDROXIDE

Avoid exposure to: air,moisture,sources of heat.

- Far from direct sunlight.
- To avoid thermal decomposition, do not overheat.
- Exposure to humidity.
- Freezing

ETHYLENE DIAMINE TETRA ACETIC ACID

Avoid humidity. Avoid the formation of dust.

2-BUTOXYETHANOL

Avoid exposure to: sources of heat,naked flames.

High temperatures and sources of ignition. Prolonged exposure with air / oxygen and light.

10.5. Incompatible materials

SODIUM HYDROXIDE

Incompatible with: strong acids,ammonia,zinc,lead,aluminium,water,flammable liquids.

Metals, oxidizing agents, water, acids, aluminum, other light metals and their alloys.

2-BUTOXYETHANOL

Oxidizing agents.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

GLICOL ETILENICO

May develop: hydroxyacetaldehyde,glyoxal,acetaldehyde,methane,carbon monoxide,hydrogen.

ETHYLENE DIAMINE TETRA ACETIC ACID

May develop: nitric oxide.

2-BUTOXYETHANOL

May develop: hydrogen.

Carbon oxides.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

GLICOL ETILENICO

WORKERS: inhalation; contact with the skin.
POPULATION: room air inhalation; skin contact with products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

GLICOL ETILENICO

By ingestion it initially stimulates the central nervous system; subsequently a phase of depression takes over. Kidney damage can occur, with anuria and uremia. The symptoms of overexposure are: vomiting, drowsiness, difficult breathing, convulsions. The lethal dose for humans is approximately 1.4 ml / kg.

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
Not classified (no significant component)
LD50 (Oral) of the mixture:
1342,21 mg/kg
LD50 (Dermal) of the mixture:
Not classified (no significant component)

2-BUTOXYETHANOL

LD50 (Oral) 615 mg/kg Rat

LD50 (Dermal) 405 mg/kg Rabbit

LC50 (Inhalation) 2,2 mg/l/4h Rat

SODIUM HYDROXIDE

LD50 (Oral) 1350 mg/kg Rat

LD50 (Dermal) 1350 mg/kg Rat

PROPAN-2-OL

LD50 (Oral) 4710 mg/kg Rat

LD50 (Dermal) 12800 mg/kg Rat

LC50 (Inhalation) 72,6 mg/l/4h Rat

GLICOL ETILENICO

Method: Not indicated
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: LD50 = 7712 mg / kg bw
Method: Not indicated
Reliability: 2
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (aerosol)
Results: LC50> 2.5 mg / L air
Bibliographic reference: Evaluation of the Developmental Toxicity of Ethylene Glycol Aerosol in the CD Rat and CD-1 Mouse by Whole-Body Exposure, Tyl RW, Ballantyne B, Fisher LC, Fait DL, Savine TA, Dodd DE, Klonne DR, Pritts IM (1995)
Method: Not indicated
Reliability: 2
Species: Mouse (CD-1; male / female)
Route of exposure: Dermal
Results: LD50> 3500 mg / kg bw
Bibliographic reference: Assessment of the Developmental Toxicity of Ethylene Glycol Applied Cutaneously to CD-1 Mice, Tyl RW, Fisher LC, Kubena MF, Vrbanic MA, Losco PE (1995)

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (male / female)
Route of exposure: Oral
Results: LD50 = 4500 mg / kg bw
Method: OECD 412
Reliability: 1
Species: Rat (Wistar; male)
Route of exposure: Inhalation (aerosol)
Results: Harmful

PROPAN-2-OL

Method: Equivalent or similar to OECD 401
Reliability: 2
Species: Rat (Sherman)
Route of exposure: Oral
Results: LD50: 5.84 other: g / kg body weight
Bibliographic reference: Smyth HF & Carpenter CP, FURTHER EXPERIENCE WITH THE RANGE FINDING TEST IN THE INDUSTRIAL TOXICOLOGY LABORATORY (1948)
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapor)

Results: LC50: ca. 5,000 ppm
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit
Route of exposure: Dermal
Results: LD50: 16.4 mL / kg bw
Bibliographic reference: Smyth HF & Carpenter CP, FURTHER EXPERIENCE WITH THE RANGE FINDING TEST IN THE INDUSTRIAL TOXICOLOGY LABORATORY (1948)

2-BUTOXYETHANOL

Method: OECD 401
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Oral
Results: LD50 = 1414 mg / kg bw
Method: CFR title 49, section 173.132
Reliability: 2
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Inhalation (vapor)
Results: Not classified
Method: OECD 402
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Dermal
Results: Not classified

SKIN CORROSION / IRRITATION

Corrosive for the skin

GLICOL ETILENICO

Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: Dermal
Results: Not classified

SODIUM HYDROXIDE

Method: Not indicated
Reliability: 1
Human species
Route of exposure: Dermal
Results: Irritating
Bibliographic reference: York M, Griffiths E, Whittle E and Basketter DA, Evaluation of a human patch test for the identification and classification of skin irritation potential (1996)

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna-White)
Route of exposure: Dermal
Results: Not irritating

PROPAN-2-OL

Method: Not indicated
Reliability: 2

Species: Rabbit
Route of exposure: Dermal
Results: Not classified
Bibliographic reference: Nixon G, Tyson C & Wertz W, Interspecies Comparisons of Skin Irritancy (1975)

2-BUTOXYETHANOL

Method: EU Method B.4
Reliability: 2
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Dermal
Results: Irritating
Bibliographic reference: Jacobs G, Martens M, Mosselmans G, Proposal of limit concentrations for skin irritation within the context of a new EEC directive on the classification and labeling of preparations. (1987)

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

GLICOL ETILENICO

Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna White)
Route of exposure: Ocular
Results: Not classified

SODIUM HYDROXIDE

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Irritating
Bibliographic reference: Jacobs GA, OECD Eye Irritation Tests on Sodium Hydroxide (1992)

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated
Reliability: 2
Species: Rabbit (Vienna-White)
Route of exposure: Ocular
Results: Irritating

PROPAN-2-OL

Method: Equivalent or similar to OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Category 2

2-BUTOXYETHANOL

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand white; male / female)
Route of exposure: Ocular
Results: Irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

SODIUM HYDROXIDE

Method: According to the OECD SIDS document for sodium hydroxide
Reliability: 2
Species: Human (male)
Route of exposure: Dermal
Results: Not sensitizing
Bibliographic reference: Park et al., Journal of Dermatological Science, 10, 159-165 (1995).

PROPAN-2-OL

Method: OECD 406
Reliability: 1
Species: guinea pig (Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing

2-BUTOXYETHANOL

Method: OECD 406
Reliability: 1
Species: Guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not sensitizing
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

Skin sensitization
GLICOL ETILENICO

Method: Not indicated
Reliability: 2
Species: guinea pig (Dunkin-Hartley; male / female)
Route of exposure: Dermal
Results: Not classified
Bibliographic reference: Evaluation of Skin Irritation and Sensitization of Two Diol Solutions used as Experimental Dentin Primers in Humans and Guinea Pigs, Kurihara A, Manabe A, Katsuno K, Itoh K, Hismitsu H, Wakumoto S, Yoshida T (1996)

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: OECD 406-Read across
Reliability: 1
Species: guinea pig (Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

GLICOL ETILENICO

Method: OECD 471 in vitro test
Reliability: 1

Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Not indicated - in vivo test
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Equivalent or similar to OECD 471-Read across-Test in vitro
Reliability: 2
Species: S. typhimurium, E.Coli
Results: Negative with and without metabolic activation
Method: OECD 474-Read across-Test in vivo
Reliability: 1
Species: Mouse (NMRI; male)
Route of exposure: Oral
Results: Negative

PROPAN-2-OL

Method: Equivalent or similar to OECD 476 in vitro test
Reliability: 1
Species: Chinese hamster
Results: Negative with or without metabolic activation
Bibliographic reference:
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 2
Species: Mouse (ICR; male / female)
Route of exposure: Oral
Results: Negative

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium TA 1535
Results: negative
Bibliographic reference:
Method: Equivalent or similar to OECD 474-Test in vivo
Reliability: 1
Species: Mouse (B6C3F1)
Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

GLICOL ETILENICO

The available studies have not shown carcinogenic power. In a 2-year carcinogenicity study, conducted by the US National Toxicology Program (NTP), in which ethylene glycol was administered in feeding, "no evidence of carcinogenic activity" was observed in male and female B6C3F1 mice (NTP, 1993).

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated-Read across
Reliability: 2
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: NOAEL> = 500 mg / kg bw / day

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

PROPAN-2-OL

Method: Equivalent or similar to OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL 500

2-BUTOXYETHANOL

Method: Not indicated
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: NOAEL = 720 mg / kg bw / day
Bibliographic reference: Heindel JJ, Gulati DK, Russel VS, Reel JR, Lawton AD and Lamb JC, Assessment of Ethylene Glycol Monobutyl and monophenol Ether reproductive toxicity using a continuous breeding protocol in Swiss CD-1 mice (1990).

Adverse effects on sexual function and fertility
ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated-Read across
Reliability: 2
Species: Rat (FDRL; male / female)
Route of exposure: Oral
Results: NOAEL (fertility)> = 250 mg / kg bw / day
Bibliographic reference: Safety Evaluation Studies of Calcium EDTA, Oser, B.L. et al, (1963)

Adverse effects on development of the offspring
ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated
Reliability: 2
Species: Rat (Albino)
Route of exposure: Oral
Results: NOAEL (development)> = 967 mg / kg bw / day

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

ALCOHOLS, BRANCHED C11-13, ETHOXYLATED

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

GLICOL ETILENICO

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

SODIUM HYDROXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ETHYLENE DIAMINE TETRA ACETIC ACID

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

PROPAN-2-OL

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

2-BUTOXYETHANOL

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Route of exposure
PROPAN-2-OL

Inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ALCOHOLS, BRANCHED C11-13, ETHOXYLATED

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

GLICOL ETILENICO

Method: OECD 410
Reliability: 1
Species: Dog (Beagle; male / female)
Route of exposure: Dermal
Results: NOAEL> 2 200 - <4 400 mg / kg bw / day

SODIUM HYDROXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

ETHYLENE DIAMINE TETRA ACETIC ACID

Method: Not indicated-Read across
Reliability: 2
Species: Rat (Holtzmann; male)
Route of exposure: Oral
Results: NOAEL> = 500 mg / kg bw / day
Bibliographic reference: The Toxicity and Pharmacodynamics of EGTA: Oral Administration to Rats and Comparisons with EDTA, Wynn, J.E. et al, (1970)
Method: OECD 413-Read across
Reliability: 1
Species: Rat (Wistar; male / female)
Route of exposure: Inhalation (dust)
Results: NOAEC = 3 mg / m3 air

PROPAN-2-OL

Method: OECD 451
Reliability: 1

Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC = 5000 ppm

2-BUTOXYETHANOL

Method: Equivalent or similar to OECD 408
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: Negative, NOAEL <69 mg / kg bw
Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEC <31 ppm
Method: Equivalent or similar to OECD 411
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative; NOAEL> 150 mg / kg bw / day

Target organ
GLICOL ETILENICO

Kidney

Route of exposure
GLICOL ETILENICO

Oral

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

12.1. Toxicity

ETHYLENE DIAMINE TETRA ACETIC ACID	
LC50 - for Fish	1000 mg/l/96h
EC10 for Algae / Aquatic Plants	29,2 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	29,2 mg/l
GLICOL ETILENICO	
LC50 - for Fish	72860 mg/l/96h
EC10 for Algae / Aquatic Plants	100 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	100 mg/l

12.2. Persistence and degradability

GLICOL ETILENICO

PROPAN-2-OL
Quickly degradable in water.
2-BUTOXYETHANOL
Easily degradable.

2-BUTOXYETHANOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
SODIUM HYDROXIDE	
Solubility in water	> 10000 mg/l
Degradability: information not available	
PROPAN-2-OL	
Rapidly degradable	
ETHYLENE DIAMINE TETRA ACETIC ACID	
Solubility in water	400 mg/l
Entirely degradable	
GLICOL ETILENICO	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12.3. Bioaccumulative potential

2-BUTOXYETHANOL	
Partition coefficient: n-octanol/water	0,81
PROPAN-2-OL	
Partition coefficient: n-octanol/water	0,05
ETHYLENE DIAMINE TETRA ACETIC ACID	
Partition coefficient: n-octanol/water	-3,34
BCF	1,1
GLICOL ETILENICO	
Partition coefficient: n-octanol/water	-1,36

12.4. Mobility in soil

Information not available

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 greater than 0,1%.

12.6. Other adverse effects

Information not available

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.

SODIUM HYDROXIDE
- Dilute with plenty of water.
- Solutions with a high pH value must be neutralized before discharging.
- Neutralize with acid.
- In accordance with local and national regulations.

ETHYLENE DIAMINE TETRA ACETIC ACID
It must be discharged or incinerated in accordance with local regulations.

PROPAN-2-OL
After pre-treatment and compliance with the regulations for hazardous waste, they must be taken to a permitted hazardous waste landfill or a hazardous waste incinerator.

2-BUTOXYETHANOL
Dispose of as hazardous waste. Recover or recycle if possible. Otherwise incineration. Dispose according to local regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1824

14.2. UN proper shipping name

ADR / RID:	SODIUM HYDROXIDE SOLUTION
IMDG:	SODIUM HYDROXIDE SOLUTION
IATA:	SODIUM 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:	III

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 5 L	Tunnel restriction code: (E)
	Special Provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 852
	Special Instructions:	A3, A803	

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

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/EC: None

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

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Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 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.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Flam. Liq. 2	Flammable liquid, category 2
Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1A	Skin corrosion, category 1A
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 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 NUMBER: 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: EC Regulation 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 STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
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- The Merck Index. - 10th Edition
- Handling Chemical Safety
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- 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.
Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 08 / 09 / 10 / 11 / 12 / 13 / 15.