

## 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: **HARD&GLOSS Family**  
Product name: **KRAFT HARD&GLOSS [Black(Matt)/White/Gold/Silver/Bronze & 34 Shades]**

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

Intended use: **High Quality Enamel Paint for Metal**

#### 1.3. Details of the supplier of the safety data sheet

Name: **DRUCKFARBEN HELLAS SA**  
Full address: **Megaridos Ave**  
District and Country: **193 00 Aspropyrgos (Attiki) Greece**  
Tel.: **+30 210 5519500**  
Fax: **+30 210 5519501**  
e-mail address of the competent person responsible for the Safety Data Sheet: **psafety@druckfarben.gr**

#### 1.4. Emergency telephone number

For urgent inquiries refer to: **+30 210 7793777**

### 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:  
Flammable liquid, category 3 H226 Flammable liquid and vapour.  
Specific target organ toxicity - single exposure, category 3 H336 May cause drowsiness or dizziness.

#### 2.2. Label elements

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

Hazard pictograms:



Signal words: **Warning**

Hazard statements:  
**H226** Flammable liquid and vapour.  
**H336** May cause drowsiness or dizziness.  
**EUH066** Repeated exposure may cause skin dryness or cracking.

Precautionary statements:  
**P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**P370+P378** In case of fire: use CO<sub>2</sub>, foam or dry powder for extinction.  
**P280** Wear protective gloves / protective clothing / eye protection / face protection / hearing protection.  
**P501** Dispose of contents and container to an approved waste disposal plant or recycled in accordance with local / national / international regulations.

**SECTION 2. Hazards identification ... / >>**

**P102** Keep out of reach of children.  
**P261** Avoid breathing dust / fume / gas / mist / vapours / spray.

**Contains:** Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

**2.3. Other hazards**

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

The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

**SECTION 3. Composition/information on ingredients**

**3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
<b>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</b>		
CAS	64742-48-9	$30 \leq x < 50$ Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, EUH066, Classification note according to Annex VI to the CLP Regulation: P
EC	919-857-5	
INDEX		
REACH Reg.	01-2119463258-33-0000	
<b>Xylene (ortho-)</b>		
CAS	95-47-6	$5 \leq x < 9$ Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: C LD50 Dermal: >1700 mg/kg, STA Inhalation vapours: 11 mg/l
EC	202-422-2	
INDEX	601-022-00-9	
REACH Reg.	01-2119488216	
<b>Xylene (mixture of isomers)</b>		
CAS	1330-20-7	$0,5 \leq x < 1$ Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: C LD50 Dermal: >1700 mg/kg, STA Inhalation vapours: 11 mg/l
EC	215-535-7	
INDEX	601-022-00-9	
REACH Reg.	01-2119488216-32	
<b>2-Ethylhexanoic Acid, Zirconium Salt</b>		
CAS	22464-99-9	$0,5 \leq x < 1$ Repr. 2 H361d
EC	245-018-1	
INDEX		
<b>2-Butoxyethanol</b>		
CAS	111-76-2	$0 \leq x < 0,5$ Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315 LD50 Oral: 1746 mg/kg, STA Dermal: 1100 mg/kg, STA Inhalation vapours: 11 mg/l
EC	203-905-0	
INDEX	603-014-00-0	
REACH Reg.	01-2119475108-36	
<b>1-methoxy-2-propanol</b>		
CAS	107-98-2	$0 \leq x < 0,5$ Flam. Liq. 3 H226, STOT SE 3 H336
EC	203-539-1	
INDEX	603-064-00-3	
REACH Reg.	01-2119457435-35-00XX	
<b>2-Methoxy-1-Methylethyl Acetate</b>		
CAS	108-65-6	$0 \leq x < 0,5$ Flam. Liq. 3 H226
EC	203-603-9	
INDEX	607-195-00-7	
<b>Ethylbenzene</b>		
CAS	100-41-4	$0 \leq x < 0,5$ Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Aquatic Chronic 3 H412 STA Inhalation mists/powders: 1,5 mg/l, STA Inhalation vapours: 11 mg/l
EC	202-849-4	
INDEX	601-023-00-4	
REACH Reg.	01-2119489370	

**SECTION 3. Composition/information on ingredients ... / >>****n-Butyl Acetate**

CAS 123-86-4 0 ≤ x < 0,5 **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066**  
EC 204-658-1 **EUH066: ≥ 0%**  
INDEX 607-025-00-1  
REACH Reg. 01-2119485493-29

**n-Butyl Acetate**

CAS 123-86-4 0 ≤ x < 0,5 **Flam. Liq. 3 H226, STOT SE 3 H336, EUH066**  
EC 204-658-1  
INDEX 607-025-00-1  
REACH Reg. 01-2119485493-29-XXXX

**2-(2-Butoxyethoxy)ethanol**

CAS 112-34-5 0 ≤ x < 0,5 **Eye Irrit. 2 H319**  
EC 203-961-6  
INDEX 603-096-00-8  
REACH Reg. 01-2119475104-44

**Quartz (SiO<sub>2</sub>)**

CAS 14808-60-7 0 ≤ x < 0,5 **Substance with a community workplace exposure limit.**  
EC 238-878-4  
INDEX

**2,6-di-tert-butyl-p-cresol**

CAS 128-37-0 0 ≤ x < 0,5 **Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1**  
EC 204-881-4  
INDEX  
REACH Reg. 01-2119565113-46

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

**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.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

### 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

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. 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 cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. 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:

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
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"»
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	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

## SECTION 8. Exposure controls/personal protection ... / >>

TLV-ACGIH 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.  
ACGIH 2021

### 2-Butoxyethanol

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	98		246		SKIN
AGW	DEU	49	10	196	40	SKIN
MAK	DEU	49	10	98	20	SKIN
TLV	GRC	120	25			
VLEP	ITA	98	20	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers					
	Acute local	Acute systemic		Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				VND	3,2 mg/kg				
Inhalation	123 mg/m3	VND		VND	49 mg/m3			VND	20 ppm
Skin				VND	38 mg/kg			VND	75 mg/kg

### Xylene (ortho-)

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU		100		200	
TLV	GRC	435	100	650	150	
WEL	GBR		50		100	
OEL	EU	221	50	442	100	
TLV-ACGIH			100		150	

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers					
	Acute local	Acute systemic		Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				VND	1,6 mg/kg/d				
Inhalation	174 mg/m3	174 mg/m3		VND	14,8 mg/m3	289 mg/m3	289 mg/m3	VND	77 mg/m3
Skin				VND	108 mg/kg/d			VND	180 mg/kg/d

### Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	GRC	1200				

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers					
	Acute local	Acute systemic		Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				VND	300 mg/kg/d				
Inhalation				VND	900 mg/m3	VND	1500 mg/m3		
Skin				VND	300 mg/kg/d			VND	300 mg/kg/d

## SECTION 8. Exposure controls/personal protection ... / >>

### Ethylbenzene

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	GRC	435	100	545	125	
WEL	GBR		100		125	
OEL	EU	442	100	884	200	
TLV-ACGIH			100		125	

### 1-methoxy-2-propanol

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU		100		200	
TLV	GRC	360	100	1080	300	
WEL	GBR		100		150	
OEL	EU	375	100	568	150	
TLV-ACGIH			100		150	

#### 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	41,6	mg/kg
Normal value for marine water sediment	4,17	mg/kg
Normal value for water, intermittent release	100	mg/l

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers					
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	3,3 mg/kg				
Inhalation			VND	43,9 mg/m3	553,5 mg/m3	VND	VND	369 mg/m3
Skin			VND	18,1 mg/kg			VND	50,6 mg/kg

### n-Butyl Acetate

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU		100		200	
TLV	GRC	710	150	950	200	
WEL	GBR		150		200	
TLV-ACGIH			150		200	

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value for water, intermittent release	0,36	mg/l
Normal value of STP microorganisms	35,6	mg/l

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers					
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation	859,7 mg/m3	859,7 mg/m3	102,34 mg/m3	102,34 mg/m3	960 mg/m3	960 mg/m3	480 mg/m3	480 mg/m3

## SECTION 8. Exposure controls/personal protection ... / >>

### Xylene (mixture of isomers)

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU		100		200	
TLV	GRC	435	100	650	150	
WEL	GBR		50		100	
OEL	EU	221	50	442	100	
TLV-ACGIH			100		150	

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND					
Inhalation	174	174	VND	14,8	289	289	VND	77
Skin			VND	108			VND	180
	mg/m3	mg/m3		mg/kg/d	mg/m3	mg/m3		mg/m3
				mg/kg/d				mg/kg/d

### 2-Methoxy-1-Methylethyl Acetate

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	275	50	550	100	SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
TLV	GRC	275	50	550	100	
VLEP	ITA	275	50	550	100	SKIN
TLV	ROU	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,635	mg/l
Normal value in marine water	0,0635	ml/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value for water, intermittent release	6,35	mg/l
Normal value of STP microorganisms	100	mg/l

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND					
Inhalation			VND	33	553,5	VND	VND	275
Skin			VND	54,8			VND	153,5
				mg/kg	mg/m3			mg/m3
				mg/kg				mg/kg

### 2-Ethylhexanoic Acid, Zirconium Salt

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	ROU	5		10		în Zr
WEL	GBR	5		10		As Zr
TLV-ACGIH		5		10		



**SECTION 8. Exposure controls/personal protection ... / >>**
**2-(2-Butoxyethoxy)ethanol**
**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	67,5	10	101,2	15	
AGW	DEU	67	10	100,5 (C)	15 (C)	Hinweis
MAK	DEU	67	10	100,5	15	Hinweis
TLV	GRC	67,5	10	101,2	15	
VLEP	ITA	67,5	10	101,2	15	
TLV	ROU	67,5	10	101,2	15	
WEL	GBR	67,5	10	101,2	15	
OEL	EU	67,5	10	101,2	15	
TLV-ACGIH		66	10			INHAL

**n-Butyl Acetate**
**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	710		950		
AGW	DEU	300	62	600 (C)	124 (C)	
TLV	GRC	710	150	950	200	
VLEP	ITA	241	50	723	150	
TLV	ROU	241	50	723	150	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

**2,6-di-tert-butyl-p-cresol**
**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	10				

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,0002	mg/l
Normal value in marine water	0,00002	mg/l

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation							VND	3,5 mg/kg
Skin							VND	0,5 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.

**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 I 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.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

**EYE PROTECTION**

Wear airtight protective 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



**SECTION 8. Exposure controls/personal protection ... / >>**

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	as showed in color folder	
Odour	characteristic	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Flammability	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	
Flash point	23 ≤ T ≤ 60 °C	
Auto-ignition temperature	Not available	
pH	Not available	
Kinematic viscosity	240-2400 mm <sup>2</sup> /s	Method:Converting Formula from Dynamic Viscosity & Density
Dynamic viscosity	60-110 KU	Temperature: 25 °C Method:ASTM D 562-05 Temperature: 25 °C
Solubility	Not available	
Partition coefficient: n-octanol/water	Not available	
Vapour pressure	Not available	
Density and/or relative density	0,93-1,25 g/cm <sup>3</sup>	Method:ISO 2811 Temperature: 25 °C
Relative vapour density	Not available	
Particle characteristics	Not applicable	

**9.2. Other information**
**9.2.1. Information with regard to physical hazard classes**

Information not available

**9.2.2. Other safety characteristics**

Total solids (250°C / 482°F)	5,96 %
VOC (Directive 2010/75/EU)	82,04 %

**SECTION 10. Stability and reactivity**
**10.1. Reactivity**

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

**2-Butoxyethanol**

2-BUTOXYETHANOL: decomposes in the presence of heat.

**1-methoxy-2-propanol**

1-METHOXY-2-PROPANOL: absorbs and dissolves in water and in organic solvents, dissolves various plastic materials; it is stable but with air it may slowly form explosive peroxides.

**n-Butyl Acetate**

N-BUTYL ACETATE: decomposes readily with water, especially when warm.

**SECTION 10. Stability and reactivity ... / >>****2-Methoxy-1-Methylethyl Acetate**

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

**n-Butyl Acetate**

Decomposes on contact with: water.

**10.2. Chemical stability**

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

**2-Ethylhexanoic Acid, Zirconium Salt**

SADT = 210°C/410°F.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

**2-Butoxyethanol**

2-BUTOXYETHANOL: can react dangerously with: aluminium, oxidising agents. Forms peroxide with air.

**Xylene (ortho-)**

XYLENE (MIXTURE OF ISOMERS): stable, but may develop violent reactions in the presence of strong oxidising agents such as sulphuric and nitric acids and perchlorates. May form explosive mixtures with the air.

**Ethylbenzene**

ETHYLBENZENE: reacts violently with strong oxidising agents and attacks various types of plastics. Can form explosive mixtures with the air.

**1-methoxy-2-propanol**

1-METHOXY-2-PROPANOL: can react dangerously with strong oxidising agents and strong acids.

**n-Butyl Acetate**

N-BUTYL ACETATE: risk of explosion on contact with: strong oxidising agents. Can react dangerously with alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with the air.

**Xylene (mixture of isomers)**

XYLENE (MIXTURE OF ISOMERS): stable, but may develop violent reactions in the presence of strong oxidising agents such as sulphuric and nitric acids and perchlorates. May form explosive mixtures with the air.

**2-Methoxy-1-Methylethyl Acetate**

May react violently with: oxidising substances, strong acids, alkaline metals.

**2-(2-Butoxyethoxy)ethanol**

May react with: oxidising substances. May form peroxides with: oxygen. Develops hydrogen on contact with: aluminium. May form explosive mixtures with: air.

**n-Butyl Acetate**

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

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

**2-Butoxyethanol**

2-BUTOXYETHANOL: avoid exposure to sources of heat and naked flames.

**1-methoxy-2-propanol**

1-METHOXY-2-PROPANOL: avoid exposure to the air.

**n-Butyl Acetate**

N-BUTYL ACETATE: avoid exposure to moisture, sources of heat and naked flames.

**2-(2-Butoxyethoxy)ethanol**

Avoid exposure to: air.

**n-Butyl Acetate**

Avoid exposure to: moisture, sources of heat, naked flames.

**10.5. Incompatible materials****1-methoxy-2-propanol**

1-METHOXY-2-PROPANOL: oxidising agents, strong acids and alkaline metals.

**n-Butyl Acetate**

N-BUTYL ACETATE: water, nitrates, strong oxidising agents, acids and alkalis and potassium tert-butoxide.

**SECTION 10. Stability and reactivity ... / >>**

## 2-Methoxy-1-Methylethyl Acetate

Incompatible with: oxidising substances, strong acids, alkaline metals.

## 2-(2-Butoxyethoxy)ethanol

Incompatible with: oxidising substances, strong acids, alkaline metals.

## n-Butyl Acetate

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

**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.

## 2-Butoxyethanol

2-BUTOXYETHANOL: hydrogen.

## Ethylbenzene

ETHYLBENZENE: methane, styrene, hydrogen, ethane.

## 2-(2-Butoxyethoxy)ethanol

May develop: hydrogen.

**SECTION 11. Toxicological information**

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**

## Xylene (ortho-)

XYLENE (MIXTURE OF ISOMERS): has a toxic effect on the CNS (encephalopathies). Irritating to the skin, conjunctivae, cornea and respiratory apparatus.

## Ethylbenzene

ETHYLBENZENE: like the benzene homologues, may exert an effect on the CNS with depression, narcosis, often preceded by dizziness and accompanied by headache. It is irritating to the skin, conjunctivae and respiratory apparatus.

## 1-methoxy-2-propanol

1-METHOXY-2-PROPANOL: the main way of entry is the skin, whereas the respiratory way is less important owing to the low vapour tension of the product. Concentrations above 100 ppm cause eye irritation, nose and oropharynx. At 1000 ppm disturbance in the equilibrium and severe eye irritation is observed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and ocular irritation on direct contact. No chronic effects have been reported in man.

## n-Butyl Acetate

N-BUTYL ACETATE: in humans the substance's vapours cause irritation to the eyes and nose. In the event of repeated exposure, there is skin irritation, dermatosis (with dryness and flaking of the skin) and keratitis.

## Xylene (mixture of isomers)

XYLENE (MIXTURE OF ISOMERS): has a toxic effect on the CNS (encephalopathies). Irritating to the skin, conjunctivae, cornea and respiratory apparatus.

Metabolism, toxicokinetics, mechanism of action and other information

## 2-Methoxy-1-Methylethyl Acetate

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

## 2-Methoxy-1-Methylethyl Acetate

WORKERS: inhalation; contact with the skin.

## 2-(2-Butoxyethoxy)ethanol

WORKERS: inhalation; contact with the skin.

## n-Butyl Acetate

WORKERS: inhalation; contact with the skin.

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

**SECTION 11. Toxicological information ... / >>**

**2-Methoxy-1-Methylethyl Acetate**

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

**2-(2-Butoxyethoxy)ethanol**

May be absorbed by inhalation, ingestion and skin contact; is irritating for the skin and especially for the eyes. May cause damage to the spleen. At room temperature the danger of inhalation is unlikely, due to the low vapour pressure of the substance.

**n-Butyl Acetate**

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

**n-Butyl Acetate**

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	>2000 mg/kg

**2-Butoxyethanol**

LD50 (Dermal):	> 2000 mg/kg Rabbit
STA (Dermal):	1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral):	1746 mg/kg Rat
LC50 (Inhalation vapours):	> 2 mg/l/4h Rat

**Xylene (ortho-)**

LD50 (Dermal):	> 1700 mg/kg Rabbit
LD50 (Oral):	3523 mg/kg Rat
LC50 (Inhalation vapours):	5000 ppm/4h Rat
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

**Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics**

LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	> 5000 mg/kg Rat
LC50 (Inhalation vapours):	> 20 mg/l/4h Rat

**Ethylbenzene**

LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	3500 mg/kg Rat

**1-methoxy-2-propanol**

LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	> 2000 mg/kg Rat
LC50 (Inhalation vapours):	54,6 mg/l/4h Rat

**n-Butyl Acetate**

LD50 (Dermal):	> 14 mg/kg Rabbit
LD50 (Oral):	> 10 mg/kg Rat
LC50 (Inhalation vapours):	> 21,1 mg/l/4h Rat

**Xylene (mixture of isomers)**

LD50 (Dermal):	> 1700 mg/kg Rabbit
LD50 (Oral):	3523 mg/kg Rat
LC50 (Inhalation vapours):	5000 ppm/4h Rat

**SECTION 11. Toxicological information ... / >>**

2-Methoxy-1-Methylethyl Acetate	
LD50 (Dermal):	> 5000 mg/kg Rat
LD50 (Oral):	8530 mg/kg Rat
LC50 (Inhalation vapours):	> 25,8 mg/l Rat
2-Ethylhexanoic Acid, Zirconium Salt	
LD50 (Dermal):	> 2000 mg/kg Rat - Wistar
LD50 (Oral):	> 5000 mg/kg Rat - Sprague-Dawley
LC50 (Inhalation vapours):	> 4,3 mg/l/4h Rat
2-(2-Butoxyethoxy)ethanol	
LD50 (Dermal):	2700 mg/kg Rabbit
LD50 (Oral):	6560 mg/kg Rat
n-Butyl Acetate	
LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	> 6400 mg/kg Rat
LC50 (Inhalation vapours):	21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

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

May cause drowsiness or dizziness

Target organs

Information not available

**SECTION 11. Toxicological information ... / >>**Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARDDoes not meet the classification criteria for this hazard class Viscosity: 240-2400 mm<sup>2</sup>/s**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**

## 2-Butoxyethanol

LC50 - for Fish	1474 mg/l/96h
EC50 - for Crustacea	1550 mg/l/48h
EC50 - for Algae / Aquatic Plants	1840 mg/l/72h
Chronic NOEC for Fish	> 100 mg/l
Chronic NOEC for Crustacea	> 100 mg/l

## Xylene (ortho-)

LC50 - for Fish	> 100 mg/l/96h Microorganisms
-----------------	-------------------------------

## Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics

LC50 - for Fish	> 100 mg/l/96h Fish / Aquatic Invertebrates / Algae / Microorganisms
EC50 - for Crustacea	> 100 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Chronic NOEC for Fish	> 0,1 mg/l
Chronic NOEC for Crustacea	> 0,1 mg/l

## 1-methoxy-2-propanol

LC50 - for Fish	> 6,8 mg/l/96h
-----------------	----------------

## n-Butyl Acetate

LC50 - for Fish	> 18 mg/l/96h Fish / Aquatic Invertebrates / Algae / Microorganisms
EC50 - for Crustacea	> 44 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 675 mg/l/72h

## Xylene (mixture of isomers)

LC50 - for Fish	> 100 mg/l/96h Microorganisms
-----------------	-------------------------------

## 2-Ethylhexanoic Acid, Zirconium Salt

LC50 - for Fish	> 100 mg/l/96h Danio rerio
EC50 - for Algae / Aquatic Plants	49,3 mg/l/72h Desmodesmus subspicatus

## 2-(2-Butoxyethoxy)ethanol

LC50 - for Fish	1300 mg/l/96h
EC50 - for Crustacea	100 mg/l/48h

**12.2. Persistence and degradability**

**SECTION 12. Ecological information ... / >>**

2-Butoxyethanol  
Rapidly degradable

Xylene (ortho-)  
Rapidly degradable

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics  
Rapidly degradable

Xylene (mixture of isomers)  
Rapidly degradable

2-Methoxy-1-Methylethyl Acetate  
Solubility in water > 10000 mg/l  
Rapidly degradable

2-Ethylhexanoic Acid, Zirconium Salt  
Solubility in water < 0,1 mg/l  
Rapidly degradable

2-(2-Butoxyethoxy)ethanol  
Solubility in water 1000 - 10000 mg/l  
Rapidly degradable

n-Butyl Acetate  
Solubility in water 1000 - 10000 mg/l

2,6-di-tert-butyl-p-cresol  
Degradability: information not available

**12.3. Bioaccumulative potential**

2-Methoxy-1-Methylethyl Acetate  
Partition coefficient: n-octanol/water 1,2

2-(2-Butoxyethoxy)ethanol  
Partition coefficient: n-octanol/water 1

n-Butyl Acetate  
Partition coefficient: n-octanol/water 2,3  
BCF 15,3

2,6-di-tert-butyl-p-cresol  
Partition coefficient: n-octanol/water 5,1 Log Kow  
BCF < 1800

**12.4. Mobility in soil**

n-Butyl Acetate  
Partition coefficient: soil/water < 3

**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  $\geq$  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**

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.

**SECTION 14. Transport information****14.1. UN number or ID number**

ADR / RID, IMDG, IATA: 1263

**14.2. UN proper shipping name**

ADR / RID: PAINT or PAINT RELATED MATERIAL

IMDG: PAINT or PAINT RELATED MATERIAL

IATA: PAINT or PAINT RELATED MATERIAL

**14.3. Transport hazard class(es)**

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3

**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: 30 Special provision: 163, 367, 650	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special provision:	Maximum quantity: 220 L Maximum quantity: 60 L A3, A72, A192	Packaging instructions: 366 Packaging instructions: 355

**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:

P5c

**SECTION 15. Regulatory information ... / >>**

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

Product

Point 3 - 40

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  $\geq$  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.

**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:

<b>Flam. Liq. 2</b>	Flammable liquid, category 2
<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Asp. Tox. 1</b>	Aspiration hazard, category 1
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>Aquatic Chronic 1</b>	Hazardous to the aquatic environment, chronic toxicity, category 1
<b>H225</b>	Highly flammable liquid and vapour.
<b>H226</b>	Flammable liquid and vapour.
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H400</b>	Very toxic to aquatic life.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.

**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)

**SECTION 16. Other information ... / >>**

- 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)
  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.