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: **C4141**

Product name **FENIX - 4141**

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

Intended use **Putty for metal, Professional use only.**

Uses related to substances

Identified Uses	Industrial	Professional	Consumer
Styrene	PROC: 1, 10, 12, 13, 14, 15, 3, 4, 5, 7, 8a, 8b, 9.	PROC: 1, 10, 11, 3, 4, 5, 8a.	-
Uses Advised Against			
SU21: Consumer use			

1.3. Details of the supplier of the safety data sheet

Name **ILPA ADESIVI SRL**

Full address **Via Ferorelli, 4**

District and Country **70132 BARI (BARI)**
ITALIA

Tel. + 39 0805383837

Fax + 39 0805377807

e-mail address of the competent person

responsible for the Safety Data Sheet **laboratorio@ilpa.it**

1.4. Emergency telephone number

For urgent inquiries refer to **+ 39 0808974667 (Technical support - 8,00 - 17,00 - LUN-GIO; MON-THU; 8:00 - 13:00 VEN; FRI)(Italian Time zone)**
Safety Executive (HSE) Chemicals Regulation Directorate 5S.1 Redgrave Court, Merton Road, Bootle, Merseyside. L20 7HS.
Phone: +44 151 9513317

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.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.

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:

H226	Flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Precautionary statements:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P308+P313	IF exposed or concerned: Get medical advice / attention.
P370+P378	In case of fire: useuse carbon dioxide, foam, chemical powder to extinguish.

Contains: STYRENE
MALEIC ANHYDRIDE
2,2 '- [(4-methylphenyl) imino] bisethanol

VOC (Directive 2004/42/EC) :

Bodyfiller / stopper.

VOC given in g/litre of product in a ready-to-use condition : 45,00

Limit value: 250,00

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)
STYRENE		
CAS 100-42-5	13,5 ≤ x < 15	Flam. Liq. 3 H226, Repr. 2 H361d, Acute Tox. 4 H332, STOT RE 1 H372, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: D
EC 202-851-5		LC50 Inhalation vapours: 11,8 mg/l/4h
INDEX 601-026-00-0		
REACH Reg. 01-2119457861-32		
ETHYL ACETATE		
CAS 141-78-6	2 ≤ x < 2,5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 205-500-4		
INDEX 607-022-00-5		
REACH Reg. 01-2119475103-46		
2,2 '- [(4-methylphenyl) imino] bisethanol		
CAS 3077-12-1	0,25 ≤ x < 0,3	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Chronic 3 H412
EC 221-359-1		LD50 Oral: 959 mg/kg
INDEX -		
REACH Reg. 01-2120791684-40		
MALEIC ANHYDRIDE		
CAS 108-31-6	0,001 ≤ x < 0,05	Acute Tox. 4 H302, STOT RE 1 H372, Skin Corr. 1B H314, Eye Dam. 1 H318, Resp. Sens. 1 H334, Skin Sens. 1A H317, EUH071
EC 203-571-6		Skin Sens. 1A H317: ≥ 0,001%
INDEX 607-096-00-9		LD50 Oral: 400
REACH Reg. 01-2119472428-31-XXXX		
DIPROPYLENE GLYCOL MONOMETHYL ETHER		
CAS 34590-94-8	0 ≤ x < 0,05	Substance with a community workplace exposure limit.
EC 252-104-2		
INDEX -		
REACH Reg. 01-2119450011-60-XXXX		

METHANOL

CAS 67-56-1	0 ≤ x < 0,05	Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370
EC 200-659-6		STOT SE 2 H371: ≥ 3%
INDEX 603-001-00-X		STA Oral: 100 mg/kg, STA Dermal: 300 mg/kg, STA Inhalation vapours: 3 mg/l
REACH Reg. 01-2119433307-44		

CYCLOHEXANE

CAS 110-82-7	0 ≤ x < 0,05	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
EC 203-806-2		
INDEX 601-017-00-1		
REACH Reg. 01-2119463273-41		

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.

PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this safety data sheet.

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. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during 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 the containers sealed, in a well ventilated place, away from direct sunlight. 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)

No use other than specified in Section 1.2 of this safety data sheet.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

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
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
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
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 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

STYRENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	86	20	172	40	
VLA	ESP	86	20	172	40	
VLEP	FRA	100	23,3	200	46,6	
TLV	GRC	425	100	1050	250	
GVI/KGVI	HRV	430	100	1080	250	SKIN
TGG	NLD	107				
TLV	ROU	50	12	150	35	
WEL	GBR	430	100	1080	250	
TLV-ACGIH		10		20		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,028	mg/l
Normal value in marine water	0,014	mg/l

Normal value for fresh water sediment	0,614	mg/kg/d
Normal value for marine water sediment	0,0614	mg/kg/d
Normal value for water, intermittent release	0,04	mg/l
Normal value of STP microorganisms	5	mg/l
Normal value for the terrestrial compartment	0,2	mg/kg/d

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			VND	2,1 mg/kg bw/d				
Inhalation	182,75 mg/m3	174,25 mg/m3	VND	10,2 mg/m3	306 mg/m3	289 mg/m3	VND	85 mg/m3
Skin			VND	343 mg/kg bw/d			VND	406 mg/kg bw/d

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
VLA	ESP	734	200	1468	400	
VLEP	FRA	734	200	1468	400	
TLV	GRC	734	200	1468	400	
GVI/KGVI	HRV	734	200	1468	400	
VLEP	ITA	734	200	1468	400	
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
TLV	ROU	734	200	1468	400	
WEL	GBR	734	200	1468	400	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,024	mg/l
Normal value for fresh water sediment	1,15	mg/kg/d
Normal value for marine water sediment	0,115	mg/kg/d
Normal value for water, intermittent release	1,65	mg/l
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	200	mg/kg
Normal value for the terrestrial compartment	0,148	mg/kg/d
Normal value for the atmosphere	NPI	

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			VND	4,5 mg/kg bw/d				
Inhalation	734 mg/m3	734 mg/m3	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg bw/d			VND	63 mg/kg bw/d

2,2 '- [(4-methylphenyl) imino] bisethanol

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,026	mg/l
Normal value in marine water	0,003	mg/l
Normal value for fresh water sediment	0,121	mg/kg
Normal value for marine water sediment	0,012	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,009	mg/kg/d

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		VND		0.16 mg/kg bw/d				
Inhalation	NPI	NPI	NPI	0.58 mg/m3	NPI	NPI	NPI	3.29 mg/m3
Skin	VND	NPI	VND	0.17 mg/kg bw/d	VND	NPI	VND	0.47 mg/kg bw/d

MALEIC ANHYDRIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	0,081	0,02	0,081 (C)	0,02 (C)	
MAK	DEU	0,081	0,02	0,081 (C)	0,02 (C)	C = 0,20 mg/m3
VLA	ESP	0,4	0,1			
VLEP	FRA			1		
TLV	GRC	1				
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	INHAL
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	SKIN
TLV	ROU	1	0,25	3	0,75	
WEL	GBR	1		3		
TLV-ACGIH		0,01	0,0025			INHAL

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,075	mg/l
Normal value in marine water	0,0075	mg/l
Normal value for fresh water sediment	0,06	mg/kg
Normal value for marine water sediment	0,006	mg/kg
Normal value for water, intermittent release	48,1	mg/l
Normal value of STP microorganisms	4,46	mg/l
Normal value for the food chain (secondary poisoning)	6,67	mg/kg
Normal value for the terrestrial compartment	0,01	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		0,1 mg/kg bw/d		0,06 mg/kg bw/d				
Inhalation			0,08 mg/m3	0,05 mg/m3	0,8 mg/m3	0,8 mg/m3	0,32 mg/m3	0,19 mg/m3
Skin		0,1 mg/kg bw/d		0,1 mg/kg bw/d		0,2 mg/kg bw/d		0,2 mg/kg bw/d

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
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			SKIN
VLEP	ITA	308	50			SKIN
TGG	NLD	300				
VLE	PRT	308	50			SKIN
TLV	ROU	308	50			SKIN
WEL	GBR	308	50			SKIN
OEL	EU	308	50			SKIN

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	mg/l
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
Oral				1,67 mg/kg bw/d				
Inhalation				37,2 mg/m3				310 mg/m3
Skin				15 mg/kg bw/d				65 mg/kg bw/d

METHANOL

Threshold Limit Value

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

AGW	DEU	270	200	1080	800	SKIN	
MAK	DEU	130	100	260	200	SKIN	
VLA	ESP	266	200			SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
TLV	GRC	260	200	325	250		
GVI/KGVI	HRV	260	200			SKIN	
VLEP	ITA	260	200			SKIN	
TGG	NLD	133				SKIN	
VLE	PRT	260	200			SKIN	
TLV	ROU	260	200			SKIN	
WEL	GBR	266	200	333	250	SKIN	
OEL	EU	260	200				
TLV-ACGIH		262	200	328	250	SKIN	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	20,8	mg/l
Normal value in marine water	20,8	mg/l
Normal value for fresh water sediment	77	mg/kg/d
Normal value for marine water sediment	7,7	mg/kg/d
Normal value for water, intermittent release	1540	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/kg/d

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	VND	8 mg/kg bw/d	VND	8 mg/kg bw/d				
Inhalation	50 mg/m3	50 mg/m3	50 mg/m3	50 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3
Skin	VND	8 mg/kg bw/d	VND	8 mg/kg bw/d	VND	40 mg/kg bw/d	VND	40 mg/kg bw/d

CYCLOHEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	700	200	2800	800		
MAK	DEU	700	200	2800	800		
VLA	ESP	700	200				
VLEP	FRA	700	200	1300	375		11
TLV	GRC	700	200				
GVI/KGVI	HRV	700	200			SKIN	
VLEP	ITA	350	100				
TGG	NLD	700		1400			
VLE	PRT	700	200				
TLV	ROU	700	200				

WEL	GBR	350	100	1050	300
OEL	EU	700	200		
TLV-ACGIH		344	100		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,207	mg/l
Normal value in marine water	0,207	mg/l
Normal value for fresh water sediment	3,627	mg/kg/d
Normal value for marine water sediment	3,627	mg/kg/d
Normal value for water, intermittent release	0,207	mg/l
Normal value of STP microorganisms	3,24	mg/l
Normal value for the terrestrial compartment	2,99	mg/kg/d

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			VND	59,4 mg/kg bw/d				
Inhalation	412 mg/m3	412 mg/m3	206 mg/m3	206 mg/m3	700 mg/m3	700 mg/m3	700 mg/m3	700 mg/m3
Skin	VND	VND	VND	1186 mg/kg bw/d	VND	VND	VND	2016 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.

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).

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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	paste	
Colour	yellow	
Odour	characteristic of solvent	Remark:(STYRENE: Journal of Applied Toxicology, 3(6):272-290. 1983.) Concentration: 0,32 ppm % Substance:STYRENE
Melting point / freezing point	Not available	Substance:STYRENE Temperature: -30,7 °C
Initial boiling point	145 °C	Substance:STYRENE Temperature: 145 °C
Boiling range	Not applicable	
Flammability	flammable liquid	
Lower explosive limit	1,2 % (v/v)	Substance:STYRENE
Upper explosive limit	8,9 % (v/v)	Substance:STYRENE
Flash point	23 ≤ T ≤ 60 °C	
Auto-ignition temperature	490 °C	Substance:STYRENE Temperature: 490 °C
Decomposition temperature	Not applicable	
pH	Not applicable	Reason for missing data:solvent based product, insoluble in water.
Kinematic viscosity	970000 mm2/s	Remark:Kinematic viscosity>20,5 mm2/s, (at 40°C) Temperature: 25 °C
Dynamic viscosity	1750 ± 100 Pas	Temperature: 25 °C
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	2,96 logkow	Concentration: Log Pow 2,96 % Substance:STYRENE
Vapour pressure	6,67 hPa	Substance:STYRENE Temperature: 20 °C

Density and/or relative density	1,7 g/cm3	
Relative vapour density	3,6 (air=1)	Substance:STYRENE
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

Evaporation rate	Not available	Concentration: 0,49 (butyl acetate=1) % Substance:STYRENE
VOC (Directive 2004/42/EC) :	17,30 % - 294,04 g/litre	
VOC (volatile carbon)	14,97 % - 254,41 g/litre	
Explosive properties	Product is not explosive. (STYRENE)	
Oxidising properties	not applicable	

SECTION 10. Stability and reactivity

10.1. Reactivity

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

STYRENE

Polymerises at temperatures above 65°C/149°F.Fire hazard.Possibility of explosion.

Added with an inhibitor that requires a small amount of dissolved oxygen at temperatures < 25°C/77°F.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Forms peroxides with: air.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

STYRENE

May react dangerously with: peroxides,strong acids.May polymerise on contact with: aluminium trichloride,azobisisobutyronitrile,dibenzoyl peroxide,sodium.Risk of explosion on contact with: butyllithium,chlorosulphuric acid,diterbutyl peroxide,oxidising substances,oxygen.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

DIPROPYLENE GLYCOL MONOMETHYL ETHER

May react violently with: strong oxidising agents.

CYCLOHEXANE

May react violently with: strong oxidants,liquid nitric oxide.Forms explosive mixtures with: air.

10.4. Conditions to avoid

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

STYRENE

Avoid contact with: oxidising substances,copper,strong acids.

ETHYL ACETATE

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

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Avoid exposure to: sources of heat.Possibility of explosion.

10.5. Incompatible materials

STYRENE

Incompatible materials: plastic materials.

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

CYCLOHEXANE

Incompatible materials: natural rubbers,neoprene,polyvinyl chloride,polyethylene.

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.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

STYRENE
WORKERS: inhalation; contact with the skin.

METHANOL
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

CYCLOHEXANE
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

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

STYRENE
The acute toxicity by inhalation at 1000 ppm affects the central nervous system with headache and dizziness, lack of coordination; irritation of the eye and respiratory tract mucous membranes occurs at 500 ppm. Chronic exposure causes depression of the central and peripheral nervous system with loss of memory, headache and drowsiness starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis; dermatosis. Repeated exposure, at low doses of inhaled substance, causes irreversible changes to hearing and may cause changes in colour vision. No certain data is available on the reversibility of the visual impairment. Repeated skin exposure causes irritation. The substance degreases the skin, which can cause dryness and cracking.

METHANOL
The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may cause permanent blindness in adult humans (IPCS).

CYCLOHEXANE
Irritating for the skin and mucous membranes, and may be absorbed by the skin; nerve damage can occur at high doses and is largely due to the

cyclohexanone, its metabolite.

Interactive effects

STYRENE
The metabolism of the substance is inhibited by ethanol. When styrene is photo-oxidised with ozone and nitrogen dioxide, as in the formation of smog, products highly irritating for the human eye may ensue.

CYCLOHEXANE
The substance may enhance the effects of agents such as tri-ortho-cresyl phosphate (TOCP).

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:	Not classified (no significant component)

STYRENE

LD50 (Dermal):	> 2000 mg/kg Rat (OECD Guideline 402)
LD50 (Oral):	5000 mg/kg Rat (MSDS Supplier)
LC50 (Inhalation vapours):	11,8 mg/l/4h Rat (Archives of Environmental Health 18: 878-882 - sito ECHA)

ETHYL ACETATE

LD50 (Dermal):	20000 mg/kg Rabbit (Publication Am Ind Hyg Ass J, 23, 95)
LD50 (Oral):	4934 mg/kg Rabbit (Equivalent to OECD 401)
LC50 (Inhalation vapours):	22,5 mg/l/6h Rat (40 CFR Part 799 (58 FR 40262))

2,2 '- [(4-methylphenyl) imino] bisethanol

LD50 (Dermal):	> 2000 mg/kg Rat, according to (OECD Guideline 402)
LD50 (Oral):	959 mg/kg Rat, equivalent or similar to (OECD Guideline 401)

MALEIC ANHYDRIDE

LD50 (Dermal):	610 mg/kg Rat
LD50 (Oral):	400 mg/kg Rat

DIPROPYLENE GLYCOL MONOMETHYL ETHER

LD50 (Dermal):	> 9500 mg/kg RAT
LD50 (Oral):	> 5000 mg/kg RAT

METHANOL

LD50 (Dermal):	17100 mg/kg rabbit
STA (Dermal):	300 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):	> 2538 mg/kg rat, equivalent or similar to (OECD Guideline 401)

LC50 (Inhalation vapours):	128,2 mg/l/4h Sprague-Dawley, according to internal company standards (BASF-test)

CYCLOHEXANE

LD50 (Dermal):	> 2000 mg/kg Rabbit, EQUIVALENT OR SIMILAR TO (OECD Guideline 402)
LD50 (Oral):	> 5000 mg/kg Rat, EQUIVALENT OR SIMILAR TO (OECD Guideline 401)
LC50 (Inhalation vapours):	19 mg/l/4h Rat, EQUIVALENT OR SIMILAR TO (OECD Guideline 403)

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

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

STYRENE
Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2002).
Classified as "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).

REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

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

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Causes damage to organs

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: 970000 mm2/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

CYCLOHEXANE	
LC50 - for Fish	4,53 mg/l/96h Pimephales promelas, EQUIVALENT OR SIMILAR TO (OECD Guideline 203)
EC50 - for Crustacea	3,89 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	32,7 mg/l/72h Chlorella vulgaris
STYRENE	
LC50 - for Fish	10 mg/l/96h Pimephales promelas (OECD Guideline 203, GLP)
EC50 - for Crustacea	4,7 mg/l/48h Daphnia magna (OECD Guideline 202, GLP)
EC50 - for Algae / Aquatic Plants	4,9 mg/l/72h Selenastrum capricornutum (EPA OTS 797.1050, GLP)
Chronic NOEC for Crustacea	1,01 mg/l/21d Daphnia magna (OECD Guideline 211, GLP)

METHANOL

LC50 - for Fish	12700 mg/l/96h Lepomis macrochirus, according to (EPA-660/3-75-009, 1975)

ETHYL ACETATE

LC50 - for Fish	230 mg/l/96h Pimephales promelas (US EPA method E03-05)
EC50 - for Crustacea	165 mg/l/48h Dapnia (Rif. SDS fornitore)
Chronic NOEC for Crustacea	100 mg/l Scenedesmus subspicatus (OECD Guideline 201, GLP)

2,2 '- [(4-methylphenyl) imino] bisethanol

LC50 - for Fish	> 100 mg/l/96h Cyprinus carpio, according to (OECD Guideline 203)
EC50 - for Crustacea	48 mg/l/48h Daphnia magna, according to (OECD Guideline 202)
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h Pseudokirchneriella subcapitata, according to (OECD Guideline 201)

12.2. Persistence and degradability

DIPROPYLENE GLYCOL MONOMETHYL ETHER

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

CYCLOHEXANE

Solubility in water	0,1 - 100 mg/l
Rapidly degradable	

STYRENE

Solubility in water	320 mg/l
Rapidly degradable 10 d, 68% according to (ISO DIS 9408)	

METHANOL

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

ETHYL ACETATE

Solubility in water	> 10000 mg/l
Rapidly degradable (Publication JWPCF 46(1), p63-77)	

MALEIC ANHYDRIDE

Solubility in water	> 10000 mg/l
Entirely degradable	

2,2 '- [(4-methylphenyl) imino] bisethanol

Rapidly degradable
According to: OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

12.3. Bioaccumulative potential

DIPROPYLENE GLYCOL MONOMETHYL ETHER	
Partition coefficient: n-octanol/water	0,0043
CYCLOHEXANE	
Partition coefficient: n-octanol/water	3,44
BCF	167 Pimephales promelas, According to Veith (1979)
STYRENE	
Partition coefficient: n-octanol/water	2,96
BCF	74
METHANOL	
Partition coefficient: n-octanol/water	-0,77
BCF	0,2
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30
MALEIC ANHYDRIDE	
Partition coefficient: n-octanol/water	-2,78

12.4. Mobility in soil

CYCLOHEXANE	
Partition coefficient: soil/water	2,89
STYRENE	
Partition coefficient: soil/water	352 (Section 4.3 of Chapter on QSAR in the TGD)

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

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: 3269

14.2. UN proper shipping name

ADR / RID:	POLYESTER RESIN KIT (contens: styrene) MIXTURE
IMDG:	POLYESTER RESIN KIT (contens: styrene) MIXTURE
IATA:	POLYESTER RESIN KIT (contens: styrene) MIXTURE

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: -- Limited Quantities: 5 L Tunnel restriction code: (E)

	Special provision: -		
IMDG:	EMS: F-E, S-D	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 10 Kg	Packaging instructions: 370
	Pass.:	Maximum quantity: 10 Kg	Packaging instructions: 370
	Special provision:	A66, A163	

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: P5b

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

Product

Point

3. Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/ 2008:
(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;
(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;
(c) hazard class 4.1;
(d) hazard class 5.1.
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.

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.

VOC (Directive 2004/42/EC) :

Bodyfiller / stopper.

15.2. Chemical safety assessment

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

STYRENE

ETHYL ACETATE

SECTION 16. Other information

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

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
Skin Corr. 1B	Skin corrosion, category 1B
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
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1

Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Use descriptor system:

PROC	**1**	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC	**10**	Roller application or brushing
PROC	**11**	Non industrial spraying
PROC	**12**	Use of blowing agents in manufacture of foam
PROC	**13**	Treatment of articles by dipping and pouring
PROC	**14**	Tabletting, compression, extrusion, pelletisation, granulation
PROC	**15**	Use as laboratory reagent
PROC	**3**	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC	**4**	Chemical production where opportunity for exposure arises
PROC	**5**	Mixing or blending in batch processes
PROC	**7**	Industrial spraying
PROC	**8a**	Transfer of substance or mixture (charging and discharging) at non- dedicated facilities
PROC	**8b**	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC	**9**	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

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)
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.

Training for workers:
Worker training should include content, updates and duration depending on the risk profiles assigned to the business sectors they belong