Material Safety Data Sheet

according to 1907/2006/EC, Article 31 and 2015/830

K-FLEX K-420 ADHESIVE

1 IDENTIFICATION OF THE ARTICLE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier
Product name: K-FLEX K-420
UFI: FKQ0-2099-K009-N5DU

1.2 Relevant identified uses of the article/mixture and uses advised against
Intended use: Adhesive for insulation of pipes containing cables

1.3 Details of the supplier of the information sheet
Manufacturer/Supplier:
L'ISOLANTE K-FLEX S.p.A.
via Don Locatelli, 35 20877 Roncello (MB) ITALY
Tel. +39 039 6824.1
e-mail: Kflex-Reach@kflex.com
Further information obtainable from: R&D Dept.

1.4 Emergency telephone number
For urgent inquiries refer to Tel. +39 039 6824.1 9:00 - 17:00

2 HAZARDS IDENTIFICATION

2.1 Classification of the article
The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 2 H225 Highly flammable liquid and vapour.
Eye irritation, category 2 H319 Causes serious eye irritation.
Specific target organ toxicity - single exposure. category 3 H336 May cause drowsiness or dizziness.
Hazardous to the aquatic environment, chronic toxicity, category 2 H411 Toxic to aquatic life with long lasting effects.

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Cap. Soc. € 56.700.000 i.v.
Codice fiscale 09470180150
Partita IVA IT 02423640966
Reg. Impr. Monza e Brianza n. MB 09470180150
R.E.A. 1868777

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:
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.
EUH208 Contains: ROSIN May produce an allergic reaction.

Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing / eye protection / face protection.
P370+P378 In case of fire: use CO2 to extinguish.
P273 Avoid release to the environment.
P391 Collect spillage.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains: HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE ETHYL ACETATE HYDROCARBONS C6 ISOALCANS <5% n-HEXANE ACETONE

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

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
N.A.

3.2 Article/Mixtures
Contains:

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Identification	Classification 1272/2008 (CLP)	x = Conc. %
CAS - EC 926-605-8 INDEX 649-341-00-2 Reg. no. 01-2119486291-36	HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE Flam. Liq. 2 H225, Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note/notes according to Annex VI to the CLP Regulation: P	37,5 ≤ x <40
CAS 141-78-6 EC 205-500-4 INDEX 607-022-00-5 Reg. no. 01-2119475103-46	ETHYL ACETATE Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066	18,5 ≤ x < 20
CAS 64742-49-0 EC 931-254-9 INDEX 649-328-00-1 Reg. no. 01-2119484651-34	HYDROCARBONS C6 ISOALCANS <5% n-HEXANE Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411, Classification note/notes according to Annex VI to the CLP Regulation: P	8,5 ≤ x <10
CAS 67-64-1 EC 200-662-2 INDEX 606-001-00-8 Reg. no. 01-2119471330-49	ACETONE Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066	8,5 ≤ x 10
CAS 8050-09-7 EC 232-475-7 INDEX 650-015-00-7 Reg. no. 01-2119480418-32	ROSIN Skin Sens. 1 H317	0,7 ≤ x <0,8
CAS 1330-20-7 EC 215-535-7 INDEX 601-022-00-9 Reg. no. 01-2119488216-32	XYLENE (MIXTURE OF ISOMERS) Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note/notes according to Annex VI to the CLP Regulation: C	0,3 ≤ x<0,35
CAS 128-37-0 EC 204-881-4 INDEX - Reg. no. 01-2119555270-46	HYDROXITOLUENE BUTYLATE Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1	0,1 ≤ x <0,15
CAS 100-41-4 EC 202-849-4 INDEX 601-023-00-4 Reg. no. 01-2119489370-35	ETHYLBENZENE Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373	0,05 ≤ x <0,1

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CAS 108-88-3 EC 203-625-9 INDEX 601-021-00-3 Reg. no. 01-2119471310-51	TOLUENE Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336	0 ≤ x <0,05
CAS 50-00-0 EC 200-001-8 INDEX 605-001-00-5 Reg. no. 01-2119488953-20	FORMALDEHYDE Carc. 1B H350, Muta. 2 H341, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317, Classification note/notes according to Annex VI to the CLP Regulation: B, D	0 ≤ x <0,05

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

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

5 FIRE-FIGHTING 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

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Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3 Advice for fire-fighters

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).

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.

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

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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.

Storage class TRGS 510 (Germany):

3

7.3 Specific end use(s)

Information not available

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Regulatory References:

FRA France Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS

FIN Suomi HTP-VÄRDEN 2018. Koncentrationer som befunnits skadliga. SOCIAL- OCH HÄLSOVÅRDSMINISTERIETS PUBLIKATIONER 10/2018

GRC Ελλάδα ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018

HUN Magyarország A pénzügyminiszter 7/2018. (VIII. 29.) PM rendelete a munkahelyek kémiai biztonságáról szóló 25/2000. (IX. 30.) EüM–SZCSM együ, TTes rendelet módosításáról.

HRV Hrvatska Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/18)

ITA Italia Decreto Legislativo 9 Aprile 2008, n.81

LTU Lietuva LIETUVOS HIGIENOS NORMA HN 23:2011 „CHEMINIŲ MEDŽIAGŲ PROFESINIO POVEIKIO RIBINIAI DYDŽIAI. MATAVIMO IR POVEIKIO VERTINIMO BENDRIEJI REIKALAVIMAI. Nr. V-695/A1-272, 2018-06-12, paskelbta TAR 2018-06-15, i. k. 2018-09988

LVA Latvija Ķīmisko vielu aroda ekspozīcijas robežvērtības (AER) darba vides gaisā 2018

NOR Norge Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5

NLD Nederland Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII

PRT Portugal Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018

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POL Polska ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r

ROU România HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici

SWE Sverige Hygieniska gränsvärden, AFS 2018:1

SVK Slovensko Nariadenie vlády č. 33/2018 Z. z. Nariadenie vlády Slovenskej republiky, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 355/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci v znení neskorších predpisov

SVN Slovenija Uradni list Republike Slovenije 20.12.2019 - Uradnem listu RS št. 78/19 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu

TUR Türkiye 12.08.2013 Tarihli, 28733 Sayılı, Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik

GBR United Kingdom EH40/2005 Workplace exposure limits (Third edition, published 2018)

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 2020

HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	400	115			

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				1301 mg/mk bw/d				
Inhalation				1131 mg/m3				5306 mg/m3
Skin				1377 mg/kg bw/d				13964 mg/kg bw/d

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XYLENE (MIXTURE OF ISOMERS)						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221	50	442	100	SKIN
TLV	CZE	200	45,4	400	90,8	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
TLV	DNK	109	25			SKIN E
VLA	ESP	221	50	442	100	SKIN
TLV	EST	200	50	450	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
HTP	FIN	220	50	440	100	SKIN
TLV	GRC	435	100	650	150	
AK	HUN	221		442		SKIN
GVI/KGVI	HRV	221	50	442	100	SKIN
VLEP	ITA	221	50	442	100	SKIN
RD	LTU	221	50	442	100	SKIN
RV	LVA	221	50	442	100	SKIN
TLV	NOR	108	25			SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
NGV/KGV	SWE	221	50	442	100	SKIN
NPEL	SVK	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
ESD	TUR	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN

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TLV-ACGIH		434	100	651	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/d
Normal value for marine water sediment 12,46 mg/kg/d
Normal value of STP microorganisms 6,58 mg/l
Normal value for the terrestrial compartment 2,31 mg/kg/d

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				12,5 mg/mk bw/d				
Inhalation	260 mg/m3	260 mg/m3	65,3 mg/m3	65,3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d				212 mg/kg bw/d

ROSIN						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1				INHAL
GVI/KGVI	HRV	0,05		0,15		
RV	LVA	4				
TLV	ROU	0,1				
WEL	GBR	0,05		0,15		
TLV-ACGIH		0,001				INHAL

Predicted no-effect concentration - PNEC
Normal value in fresh water 0,002 mg/l

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Normal value in marine water 0 mg/l
Normal value for fresh water sediment 0,007 mg/kg/d
Normal value for marine water sediment 0,001 mg/kg/d
Normal value of STP microorganisms 1000 mg/l
Normal value for the terrestrial compartment 0 mg/kg/d

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								
Inhalation						10 mg/m3		
Skin								2,131 mg/kg bw/d

TOLUENE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	192	50	384	100	SKIN
TLV	CZE	192	50,112	384	100,224	SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	SKIN
TLV	DNK	94	25			SKIN E
VLA	ESP	192	50	384	100	SKIN
TLV	EST	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
HTP	FIN	81	25	380	100	SKIN Buller
TLV	GRC	192	50	384	100	
AK	HUN	190		380		SKIN

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GVI/KGVI	HRV	192	50	384	100	SKIN
VLEP	ITA	192	50			SKIN
RD	LTU	192	50	384	100	SKIN
RV	LVA	50	14	150	40	SKIN
TLV	NOR	94	25			SKIN
TGG	NLD	150		384		SKIN
VLE	PRT	192	50	384	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
TLV	ROU	192	50	384	100	SKIN
NGV/KGV	SWE	192	50	384	100	SKIN
NPEL	SVK	192	50	384	100	SKIN
MV	SVN	192	50	384	100	SKIN
ESD	TUR	192	50	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20	384		

Predicted no-effect concentration - PNEC
Normal value in fresh water 0,68 mg/l
Normal value in marine water 0,68 mg/l
Normal value for fresh water sediment 16,39 mg/l
Normal value for marine water sediment 16,39 mg/l
Normal value for water, intermittent release 0,68 mg/l
Normal value of STP microorganisms 13,61 mg/l
Normal value for the terrestrial compartment 2,89 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

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Oral				8,13 mg/kg bw/d				
Inhalation	226 mg/m3	226 mg/m3	56,5 mg/m3	56,5 mg/m3	384 mg/m3	384 mg/m3	192 mg/m3	192 mg/m3
Skin				226 mg/kg bw/d				384 mg/kg bw/d

ETHYLBENZENE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	435		545		SKIN
TLV	CZE	200	45,4	500	113,5	SKIN
AGW	DEU	88	20	176	40	SKIN
MAK	DEU	88	20	176	40	SKIN
TLV	DNK	217	50			SKIN E
VLA	ESP	441	100	884	200	SKIN
TLV	EST	442	100	884	200	SKIN
VLEP	FRA	88,4	20	442	100	SKIN
HTP	FIN	220	50	880	200	SKIN
TLV	GRC	435	100	545	125	
AK	HUN	442		884		SKIN
GVI/KGVI	HRV	442	100	884	200	SKIN
VLEP	ITA	442	100	884	200	SKIN
RD	LTU	442	100	884	200	SKIN
RV	LVA	442	100	884	200	SKIN
TLV	NOR	20	5			SKIN
TGG	NLD	215		430		SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSCh	POL	200		400		SKIN
TLV	ROU	442	100	884	200	SKIN

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K-FLEX K-420 ADHESIVE

NGV/KGV	SWE	220	50	884	200	SKIN
NPEL	SVK	442	100	884	200	SKIN
MV	SVN	442	100	884	200	SKIN
ESD	TUR	442	100	884	200	SKIN
WEL	GBR	441	100	552	125	SKIN
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH		87	20			

Predicted no-effect concentration - PNEC
Normal value in fresh water 0,1 mg/l
Normal value in marine water 0,01 mg/l
Normal value for fresh water sediment 13,7 mg/kg/d
Normal value for marine water sediment 1,37 mg/kg/d
Normal value of STP microorganisms 9,6 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
Oral								
Inhalation					293 mg/m3			77 mg/m3
Skin								180 mg/kg bw/d

FORMALDEHYDE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1		2		

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TLV	CZE	0,5	0,4005	1	0,801	
AGW	DEU	0,37	0,3	0,74	0,6	
TLV	DNK			0,4 (C)	0,3 (C)	
VLA	ESP	0,37	0,3	0,74	0,6	
TLV	EST	0,6	0,5	1,2 (C)	1(C)	
VLEP	FRA		0,5		1	
HTP	FIN	0,37	0,3	1,2 (C)	1(C)	
TLV	GRC	2,5	2	2,5	2	
AK	HUN	0,6		0,6		SKIN
GVI/KGVI	HRV	2,5	2	2,5	2	
RD	LTU	0,37	0,3	0,74 (C)	0,6 (C)	
RV	LVA	0,5				
TLV	NOR	0,6	0,5	1,2 (C)	1(C)	
TGG	NLD	0,15		0,5		
NDS/NDSCh	POL	0,37		0,74		SKIN
TLV	ROU	1,2	1	3	2	
NGV/KGV	SWE	0,37	0,3	0,74	0,6	SKIN
NPEL	SVK	0,37	0,3	0,74	0,6	
MV	SVN	0,62	0,5	0,62	0,5	SKIN
WEL	GBR	2,5	2	2,5	2	
OEL	EU	0,37	0,3	0,74	0,6	
TLV-ACGIH				0,1	0,3 (C)	

Predicted no-effect concentration - PNEC
Normal value in fresh water 0,44 mg/l
Normal value in marine water 0,44 mg/l
Normal value for fresh water sediment 2,3 mg/kg/d
Normal value for marine water sediment 2,3 mg/kg/d
Normal value of STP microorganisms 0,19 mg/l

Health - Derived no-effect level - DNEL / DMEL		
Route of exposure	Effects on consumers	Effects on workers

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K-FLEX K-420 ADHESIVE

	Acute local	Acute systemic	Chronic local	Chronic systemic	Acutelocal	Acute systemic	Chronic local	Chronic systemic
Oral				4,1 mg/kg bw/d				
Inhalation			0,1 mg/m3	3,2 mg/m3	1 mg/m3		0,375 mg/m3	9 mg/m3
Skin			0,012 mg/cm2	102 mg/kg bw/d			0,037 mg/cm2	240 mg/kg bw/d

ACETONE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	600		1400		
TLV	CZE	800	331,2	1500	621	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
TLV	DNK	600	250			E
TLV	EST	1210	500			
VLEP	FRA	1210	500	2420	1000	
HTP	FIN	1200	500	1500	630	
TLV	GRC	1780		3560		
AK	HUN	1210				
GVI/KGVI	HRV	1210	500			
VLEP	ITA	1210	500			
RD	LTU	1210	500	2420	1000	
RV	LVA	1210	500			SKIN
TLV	NOR	295	125			
TGG	NLD	1210		2420		
VLE	PRT	1210	500			
NDS/NDSCh	POL	600		1800		
TLV	ROU	1210	500			

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NGV/KGV	SWE	600	250	1200 (C)	500 (C)	
NPEL	SVK	1210	500			
MV	SVN	1210	500	2420	1000	
ESD	TUR	1210	500			
WEL	GBR	1210	500	3620	1500	
OEL	EU	1210	500			
TLV-ACGIH			250		500	

Predicted no-effect concentration - PNEC
Normal value in fresh water 10,6 mg/l
Normal value in marine water 1,06 mg/l
Normal value for fresh water sediment 30,4 mg/kg/d
Normal value for marine water sediment 3,04 mg/kg/d
Normal value of STP microorganisms 100 mg/l
Normal value for the terrestrial compartment 29,5 mg/kg/d

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				62 mg/kg bw/d				
Inhalation				200 mg/m3	2420 mg/m3			1210 mg/m3
Skin				62 mg/kg bw/d				186 mg/kg bw/d

ETHYL ACETATE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	

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TLV	BGR	734	200	1468	400	
TLV	CZE	700	191,1	900	245,7	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
TLV	DNK	540	150			E
VLA	ESP	734	200	1468	400	
TLV	EST	500	150	1100	300	
VLEP	FRA	734	200	1468	400	
HTP	FIN	730	200	1470	400	
TLV	GRC	734	200	1468	400	
AK	HUN	734		1468		
GVI/KGVI	HRV	734	200	1468	400	
RD	LTU	500	150	1100 (C)	300 (C)	
RV	LVA	200	54	1468	400	
TLV	NOR	734	200			
TGG	NLD	734		1468		
VLE	PRT	734	200	1468	400	
NDS/NDSCh	POL	734		1468		
TLV	ROU	400	111	500	139	
NGV/KGV	SWE	550	150	1100	300	
NPEL	SVK	734	200	1468	400	
MV	SVN	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 of STP microorganisms 650 mg/l

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Normal value for the food chain (secondary poisoning) 0,2 g/kg/food
Normal value for the terrestrial compartment 0,148 mg/kg/d

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

HYDROCARBONS C6 ISOALCANS <5% n-HEXANE								
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				1301mg/kg bw/d				
Inhalation				1131 mg/m3				5306 mg/m3
Skin				1377 mg/kg bw/d				13964 mg/kg bw/d

HYDROXITOLUENE BUTYLATE						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks/Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	10		50		
AGW	DEU	10		40 (C)		INHAL

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TLV	DNK	10				
VLA	ESP	10				
VLEP	FRA	10				
HTP	FIN	10		20		
TLV	GRC	10				
WEL	GBR	10		30		

Predicted no-effect concentration - PNEC
Normal value in fresh water 0,000199 mg/l
Normal value in marine water 0,00002 mg/l
Normal value for fresh water sediment 0,0996 mg/kg/d
Normal value for marine water sediment 0,00996 mg/kg/d
Normal value of STP microorganisms 0,17 mg/l
Normal value for the food chain (secondary poisoning) 8,33 g/kg/food
Normal value for the terrestrial compartment 0,04769 mg/kg/d

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				0,25 mg/kg bw/d				
Inhalation				0,86 mg/m3				3,5 mg/m3
Skin				0,25 mg/kg bw/d				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

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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.

HAND PROTECTION
Protect your hands with category III work gloves (ref. Standard EN 374). Glove material in butyl rubber. The transit time must be at least 240 minutes (Permeation in accordance with EN 374-3 3: level 5).
Gloves have a wear time that depends on the duration and mode 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, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (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.

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9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	liquid
Colour	orange
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	36 °C
Boiling range	Not available
Flash point	-20 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	1,2 % (V/V)
Upper inflammability limit	11,5 % (V/V)
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	110 hPa
Vapour density	Not available
Relative density	0,80
Solubility	Not available
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 200 °C
Decomposition temperature	Not available
Viscosity	700 mPa.s @ 20°C
Explosive properties	Not available
Oxidising properties	Not available

9.2 Other information

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Total solids (250°C / 482°F)	20,60 %
VOC (Directive 2010/75/EC) :	79,20 % - 792,00 g/litre
VOC (volatile carbon) :	65,04 % - 521,30 g/litre

10 STABILITY AND REACTIVITY

10.1 Reactivity

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

TOLUENE

Avoid exposure to: light.

FORMALDEHYDE

Decomposes under the effect of heat.

Acqueous solutions are stabilised with methanol but tend to polymerise over time.

ACETONE

Decomposes under the effect of heat.

ETHYL ACETATE

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

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.

XYLENE (MIXTURE OF ISOMERS)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

TOLUENE

Risk of explosion on contact with: fuming sulphuric acid,nitric acid,silver perchlorate,nitrogen dioxide,non-metal halogenates,acetic acid,organic nitrocompounds.May form explosive mixtures with: air.May react dangerously with: strong oxidising agents,strong acids,sulphur.

ETHYLBENZENE

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Reacts violently with: strong oxidants.Attacks various types of plastic materials.May form explosive mixtures with: air.

FORMALDEHYDE
Risk of explosion on contact with: nitromethane,nitrogen dioxide,hydrogen peroxide,phenoles,performic acid,nitric acid.May polymerise on contact with: strong oxidising agents,alkalis.May react dangerously with: hydrochloric acid,magnesium carbonate,sodium hydroxide,perchloric acid,aniline.Forms explosive mixtures with: air.

ACETONE
Risk of explosion on contact with: bromine trifluoride,fluorine dioxide,hydrogen peroxide,nitrosyl chloride,2-methyl-1,3 butadiene,nitromethane,nitrosyl perchlorate.May react dangerously with: potassium tert-butoxide,alkaline hydroxides,bromine,bromoform,isoprene,sodium,sulphur dioxide,chromium trioxide,chromyl chloride,nitric acid,chloroform,peroxymonosulphuric acid,phosphoryl oxychloride,chromosulphuric acid,fluorine,strong oxidising agents,strong reducing agents.Develops flammable gas on contact with: nitrosyl perchlorate.

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.

10.4 Conditions to avoid
Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

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

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

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

10.5 Incompatible materials
FORMALDEHYDE
Incompatible with: acids,alkalis,ammonia,tannin,strong oxidants,phenoles,copper salts,silver,iron.

ACETONE
Incompatible with: acids,oxidising substances.

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

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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.

ETHYLBENZENE
May develop: methane,styrene,hydrogen,ethane.

FORMALDEHYDE
When heated to decomposition releases: methanol,carbon monoxide.

ACETONE
May develop: ketenes,irritant substances.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

XYLENE (MIXTURE OF ISOMERS)

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

TOLUENE

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.

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ETHYLBENZENE

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

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

XYLENE (MIXTURE OF ISOMERS)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

TOLUENE

Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

ETHYLBENZENE

As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

Interactive effects

XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

TOLUENE

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Certain drugs and other industrial products can interfere with the metabolism of the toluene.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:
Not classified (no significant component)
ATE (Oral) of the mixture:
Not classified (no significant component)
ATE (Dermal) of the mixture:
Not classified (no significant component)

HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE

LD50 (Oral) > 3350 mg/kg Rat

LD50 (Dermal) > 2000 mg/kg Rabbit

LC50 (Inhalation) > 20 mg/l/4h Rat

XYLENE (MIXTURE OF ISOMERS)

LD50 (Oral) 3523 mg/kg Rat

LD50 (Dermal) 4350 mg/kg Rabbit

LC50 (Inhalation) 26 mg/l/4h Rat

ROSIN

LD50 (Oral) 2800 mg/kg Rat

LD50 (Dermal) > 2000 mg/kg

TOLUENE

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LD50 (Oral) 5000 mg/kg Rat

LD50 (Dermal) 12267 mg/kg Rabbit

LC50 (Inhalation) 25,7 mg/l/4h Rat

ETHYLBENZENE

LD50 (Oral) 3500 mg/kg Rat

LD50 (Dermal) 15354 mg/kg Rabbit

LC50 (Inhalation) 17,2 mg/l/4h Rat

FORMALDEHYDE

LD50 (Oral) 100 mg/kg Rat

LD50 (Dermal) 270 mg/kg Rabbit

LC50 (Inhalation) 0,165 ppm Rat

ACETONE

LD50 (Oral) 5800 mg/kg Rat

LD50 (Dermal) 20000 mg/kg Rabbit

ETHYL ACETATE

LD50 (Oral) 4934 mg/kg dw Rat - Metodo OCSE 401

LD50 (Dermal) > 20000 mg/kg bw Rabbit

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LC50 (Inhalation) > 6000 ppm/6h Rat

HYDROCARBONS C6 ISOALCANS <5% n-HEXANE

LD50 (Oral) 16750 mg/kg Rat

LD50 (Dermal) 3350 mg/kg Rabbit

LC50 (Inhalation) 259,3 mg/l/4h Rat

HYDROXITOLUENE BUTYLATE

LD50 (Oral) > 5000 mg/kg Rat

LD50 (Dermal) > 2000 mg/kg Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.Contains:ROSIN

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

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Does not meet the classification criteria for this hazard class

XYLENE (MIXTURE OF ISOMERS)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

TOLUENE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

ETHYLBENZENE

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000).
Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: 700 mPa.s @ 20°C

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12 ECOLOGICAL INFORMATION

12.1 Toxicity

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE	
LC50 - for Fish	12 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	3 mg/l/48h Daphnia Magna
EC50 - for Algae / Aquatic Plants	55 mg/l/72h Pseudokirchneriella subcapitata

XYLENE (MIXTURE OF ISOMERS)	
LC50 - for Fish	11,9 mg/l/96h Trota iridea, trota iridea Donaldson (Oncorhynchus mykiss)
EC50 - for Crustacea	100 mg/l/24h Pulce d'acqua (Daphnia magna)

TOLUENE	
EC50 - for Crustacea	3,78 mg/l/48h Ceriodaphnia dubia
EC50 - for Algae / Aquatic Plants	134 mg/l/4h algae
Chronic NOEC for Fish	1,4 mg/l Oncorhynchus kisutch
Chronic NOEC for Crustacea	0,74 mg/l Ceriodaphnia dubia
Chronic NOEC for Algae / Aquatic Plants	10 mg/l Skeletonema costatum

FORMALDEHYDE	
LC50 - for Fish	6,9 mg/l/144h Zebra danio (Danio rerio)

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EC50 - for Crustacea	4,3 mg/l/48h Pulce d'acqua (Daphnia pulex)

ETHYL ACETATE	
LC50 - for Fish	230 mg/l/96h Pimephales promelas
EC50 - for Crustacea	165 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h Scenedesmus subspicatus
Chronic NOEC for Crustacea	2,4 mg/l 21 day - Daphnia pulex

HYDROCARBONS C6 ISOALCANS <5% n-HEXANE	
EC50 - for Crustacea	31,9 mg/l/48h
EC50 - for Algae / Aquatic Plants	13,6 mg/l/72h
Chronic NOEC for Fish	4,09 mg/l 28 days
Chronic NOEC for Algae / Aquatic Plants	3 mg/l

HYDROXITOLUENE BUTYLATE	
LC50 - for Fish	> 0,57 mg/l/96h Danio rerio
EC50 - for Crustacea	0,48 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 0,4 mg/l/72h
Chronic NOEC for Fish	0,053 mg/l
Chronic NOEC for Crustacea	0,023 mg/l

12.2 Persistence and degradability

XYLENE (MIXTURE OF ISOMERS)	
Solubility in water	100 - 1000 mg/l

Degradability: information not available

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ROSIN	
Solubility in water	0,1 - 100 mg/l

Rapidly degradable

TOLUENE	
Solubility in water	100 - 1000 mg/l

Rapidly degradable

ETHYLBENZENE	
Solubility in water	1000 - 10000 mg/l

Rapidly degradable

FORMALDEHYDE	
Solubility in water	55000 mg/l

Rapidly degradable

ACETONE	

NOT rapidly degradable

ETHYL ACETATE	
Solubility in water	> 10000 mg/l

Rapidly degradable

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HYDROCARBONS C6 ISOALCANS <5% n-HEXANE	

Rapidly degradable

12.3 Bioaccumulative potential

HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE	
Partition coefficient: n-octanol/water	< 4 Log Kow

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9

ROSIN	
Partition coefficient: n-octanol/water	3
BCF	56,23

TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90

ETHYLBENZENE	
Partition coefficient: n-octanol/water	3,6

FORMALDEHYDE	
Partition coefficient: n-octanol/water	0,35
BCF	< 1

ACETONE	
Partition coefficient: n-octanol/water	-0,23

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BCF	3

ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

HYDROCARBONS C6 ISOALCANS <5% n-HEXANE	
Partition coefficient: n-octanol/water	3,6 Log Kow
BCF	< 2500

HYDROXITOLUENE BUTYLATE	
Partition coefficient: n-octanol/water	5,1

12.4 Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73

ROSIN	
Partition coefficient: soil/water	3,7289

FORMALDEHYDE	
Partition coefficient: soil/water	1,202

HYDROCARBONS C6 ISOALCANS <5% n-HEXANE	
Partition coefficient: soil/water	1,78

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 Other adverse effects

Information not available

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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.

14 TRANSPORT INFORMATION

14.1 UN number

ADR / RID, IMDG, IATA:	1133

14.2 UN proper shipping name

ADR/RID	ADHESIVES
IMDG	ADHESIVES (HYDROCARBONS, C6-C7, ISOALCANS, CYCLICS, <5% n-HEXANE)
IATA	ADHESIVES

14.3 Transport hazard class(es)

ADR / RID:	Class: 3	Label: 3	
IMDG:	Class: 3	Label: 3	

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IATA:	Class: 3	Label: 3	

14.4 Packing Group

ADR / RID, IMDG, IATA:	II

14.5 Environmental hazards

ADR / RID:	Environmentally Hazardous	
IMDG:	Marine Pollutant	
IATA:	NO	

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6 Special Precautions for User

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special Provision: 640D		
IMDG:	EMS: F-E, S-D	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 353
	Special Instructions:	A3	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Information not relevant

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15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the article/mixture
Seveso Category - Directive 2012/18/EC: P5c-E2

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

Product

Point	3 - 40

Contained substance

Point	72	FORMALDEHYDE Reg. no.: 01-2119488953-20

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 (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

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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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 3: Severe hazard to waters

15.2 Chemical Safety Assessment
A chemical safety assessment has been performed for the following contained substances

ETHYL ACETATE

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
Carc. 1B	Carcinogenicity, category 1B
Muta. 2	Germ cell mutagenicity, category 2
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
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
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1

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Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H350	May cause cancer.
H341	Suspected of causing genetic defects.
H361d	Suspected of damaging the unborn child.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
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.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule

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- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 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) 2018/1480 (XIII Atp. CLP)

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16. Regulation (EU) 2019/521 (XII 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.

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