



Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 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: AP---M088/-----
Product name: THINNER FOR CLEANING FOR PVC
UFI : Q610-107U-N00F-XU5M

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

Intended use: THINNER

Identified Uses	Industrial	Professional	Consumer
Thinner for nitro system. For Industrial uses	PROC: 13, 7. PC: 9a.	-	-

1.3. Details of the supplier of the safety data sheet

Name: RENNER ITALIA S.P.A.
Full address: Via Ronchi Inferiore, 34
District and Country: 40061 Minerbio (BO) Italia
Tel.: +39 051-6618211
Fax: +39 051-6606312
e-mail address of the competent person responsible for the Safety Data Sheet: sds@renneritalia.com

1.4. Emergency telephone number

For urgent inquiries refer to:
RENNER ITALIA S.p.A. - Tel. +39 051-6618211 (dal lunedì al venerdì dalle 8.30 - 13.00 e dalle 14.00 - 17.30)
ITALIA
CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA - Tel. + 39 06-68593726
Az. Osp. Univ. Foggia - Tel. +39 800183459
Az. Osp. "A. Cardarelli" - Tel. +39 081-5453333
CAV Policlinico "Umberto I" - Tel. +39 06-49978000
CAV Policlinico "A. Gemelli" - Tel. +39 06-3054343
Az. Osp. "Careggi" U.O. Tossicologia Medica - Tel. +39 055-7947819
CAV IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione
Tel. +39 0382-24444
Osp. Niguarda Ca' Granda - Tel. +39 02-66101029
Azienda Ospedaliera Papa Giovanni XXIII - Tel. +39 800883300
Azienda Ospedaliera Integrata Verona - Tel. +39 800011858
BELGIUM
Centre Antipoisons c/o Hôpital Militaire Reine - Tel. +32 022649636
BULGARIA - България
Национален център по токсикология, МБАЛСМ "Пирогов"
телефон: +359 2 9154 233
ČESKÁ REPUBLIKA
Toxikologické informační středisko Praha: (+420) 224 919 293
CROATIA
Služba za izvanredna stanja (112)
Centar za kontrolu otrovanja (01/2348-342)
GREECE
Ελληνικό Κέντρο Δηλητηριάσεων: 0030-2107793777
HUNGARY
Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ)
1096 Budapest, Nagyvárad tér 2.
Telefon: +36 1 476 6464 (8-16 óráig), +36 80 201 199 (éjjel-nappal hívható) magyar

nyelven

LATVIA

Valsts ugunsdzesības un glabšanas dienests: (+371) 112

Saindešanas un zalu informācijas centrs: (+371) 67042473 (visu diennakti)

LITHUANIA

Apsinuodijimų kontrolės ir Informacijos biuras visą parą tel. (8 5) 236 2052

Bendras pagalbos telefonas: 112

NORWAY

Emergency number: 113

POLSKA

Numer telefonu alarmowego: +48 22 615 27 51

PORTUGAL

Centro de Informação Anti-Venenos: 800 250 250

SPAIN

Información telefónica y emergencias toxicológicas (INTCF) – tel. 91 562 04 20

AUSTRALIA & NEW ZEALAND

Poisons information Centre, Australia wide: Phone 13 11 26 - H24 Service

Police or Fire Brigade: Phone 000 Or New Zealand: 0800 764 766

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 2	H225	Highly flammable liquid and vapour.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause 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.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

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.
H361d	Suspected of damaging the unborn child.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.



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Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P331	Do NOT induce vomiting.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER / doctor.
P370+P378	In case of fire: use carbon dioxide, foam, powder and water spray to extinguish.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains:	TOLUENE N-BUTYL ACETATE ACETONE ISO-BUTANOL
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2.3. Other hazards

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

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

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
TOLUENE		
INDEX 601-021-00-3	$50 \leq x < 60$	Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 3 H412
EC 203-625-9		
CAS 108-88-3		
REACH Reg. 01-2119471310-51-XXXX		
N-BUTYL ACETATE		
INDEX 607-025-00-1	$25 \leq x < 30$	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		
CAS 123-86-4		
REACH Reg. 01-2119485493-29		
ACETONE		
INDEX 606-001-00-8	$10 \leq x < 15$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
CAS 67-64-1		
REACH Reg. 01-2119471330-49-XXXX		
ISO-BUTANOL		
INDEX 603-108-00-1	$2 \leq x < 3$	Flam. Liq. 3 H226, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336
EC 201-148-0		
CAS 78-83-1		
REACH Reg. 01-2119484609-23-xxxx		
2-BUTOXYETHANOL		
INDEX 603-014-00-0	$2 \leq x < 3$	Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315
EC 203-905-0		LD50 Oral: 1200 mg/kg, LC50 Inhalation vapours: 3 mg/l/4h
CAS 111-76-2		
REACH Reg. 01-2119475108-36		

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

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. 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



SECTION 4. First aid measures ... / >>

doctor.

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

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

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

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

UNSUITABLE EXTINGUISHING EQUIPMENT

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

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

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

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

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

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may

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occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. 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 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)

See the exposure scenarios attached to this safety datasheet.

SECTION 8. Exposure controls/personal protection**8.1. Control parameters**

Regulatory references:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	Nariadení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
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
EST	Eesti	Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskonna keemiliste ohutegurite piirnormid [RT I, 17.10.2019, 1 - jõust. 17.01.2020]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 2020:25
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 μεταλλαξιογόνους παράγοντες κατά την εργασία"»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvis higienos normos hn 23:2011 „cheminių medžiagų profesinio poveikio ribiniai dydžiai. Matavimo ir poveikio vertinimo bendrieji reikalavimai“ patvirtinimo
LVA	Latvija	Grozījumi Ministru kabineta 2007. gada 15. maija noteikumos Nr. 325 "Darba aizsardzības prasības saskarē ar ķīmiskajām vielām darba vietās" (prot. Nr. 32 18. §; prot. Nr. 1 22. §)
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdi og grenseverdi for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdi), 21. august 2018 nr. 1255
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
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu



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TUR	Türkiye	(Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19) Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2022

ISO-BUTANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	300	97,5	600	195	
AGW	DEU	310	100	310 (C)	100 (C)	
MAK	DEU	310	100	310	100	
VLA	ESP	154	50			
TLV	EST	150	50			
VLEP	FRA	150	50			
TLV	GRC	300	100	300	100	
GVI/KGVI	HRV	154	50	231	75	SKIN
RD	LTU	10				SKIN
RV	LVA	10				
TLV	NOR	75	25			SKIN
TGG	NLD	150				
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	100	33	200	66	
NPEL	SVK	310	100			
MV	SVN	310	100	310	100	
WEL	GBR	154	50	231	75	
TLV-ACGIH		152	50			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,4	mg/l
Normal value in marine water	0,04	mg/l
Normal value for fresh water sediment	1,52	mg/kg
Normal value for marine water sediment	0,152	mg/kg
Normal value for water, intermittent release	11	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,0699	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local VND	Chronic systemic 25 mg/kg	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral								
Inhalation			55 mg/m3	VND			310 mg/m3	VND



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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
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
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		
VLE	PRT	192	50	384	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	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			20			

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/kg
Normal value for marine water sediment	16,39	mg/kg
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
Oral			VND	8,13 mg/kg				
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			VND	226 mg/kg			VND	384 mg/m3



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2-BUTOXYETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	98	20	246	50	SKIN
TLV	CZE	100	20,4	200	40,8	SKIN
AGW	DEU	49	10	98 (C)	20 (C)	SKIN
MAK	DEU	49	10	98	20	SKIN Hinweis
VLA	ESP	98	20	245	50	SKIN
TLV	EST	98	20	246	50	
VLEP	FRA	49	10	246	50	SKIN
HTP	FIN	98	20	250	50	SKIN
TLV	GRC	120	25			
AK	HUN	98		246		SKIN
GVI/KGVI	HRV	98	20	246	50	SKIN
VLEP	ITA	98	20	246	50	SKIN
RD	LTU	50	10	100	20	SKIN
RV	LVA	98	20	246	50	SKIN
TLV	NOR	50	10			SKIN
TGG	NLD	100		246		SKIN
VLE	PRT	98	20	246	50	SKIN
NDS/NDSch	POL	98		200		SKIN
TLV	ROU	98	20	246	50	SKIN
NPEL	SVK	98	20	246	50	SKIN
MV	SVN	98	20	246	50	SKIN
ESD	TUR	98	20	246	50	SKIN
WEL	GBR	123	25	246	50	SKIN
OEL	EU	98	20	246	50	SKIN
TLV-ACGIH		97	20			

Predicted no-effect concentration - PNEC

Normal value in fresh water	8,8	mg/l
Normal value in marine water	0,88	mg/l
Normal value for fresh water sediment	34,6	mg/kg
Normal value for marine water sediment	3,46	mg/kg
Normal value for water, intermittent release	9,1	mg/l
Normal value of STP microorganisms	463	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,33	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	26,7 mg/kg bw/d	VND	6,3 mg/kg bw/d				
Inhalation	426 mg/m3	147 mg/m3	VND	59 mg/m3	246 mg/m3	1091 mg/m3	VND	98 mg/m3
Skin	MED	VND	VND	VND	VND	VND	VND	VND



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ACETONE

Threshold Limit Value

Type	Country	TWA/8h mg/m3	ppm	STEL/15min mg/m3	ppm	Remarks / Observations
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	EST	1210	500			
VLEP	FRA	1210	500	2420	1000	
HTP	FIN	1200	500	1500	630	
TLV	GRC	1780		3560		
AK	HUN	1210				
GV/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			
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
Normal value for marine water sediment	3,04	mg/kg
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	29,5	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers				
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic
	local	systemic	local	systemic	local	systemic	local
Oral			VND	62 mg/kg bw/d			
Inhalation			VND	200 mg/m3	2420 mg/m3	1210 mg/m3	VND
Skin			VND	62 mg/kg			VND
							1210 mg/m3
							186 mg/kg bw/d

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

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm
TLV	BGR	710		950	
TLV	CZE	950	196,65	1200	248,4
AGW	DEU	300	62	600 (C)	124 (C)
VLA	ESP	724	150	965	200
TLV	EST	500	100	700	150
VLEP	FRA	710	150	940	200
TLV	GRC	710	150	950	200
AK	HUN	241		723	
GVI/KGVI	HRV	241	50	723	150
VLEP	ITA	241	50	723	150
RD	LTU	241	50	723	150
RV	LVA	200			
TLV	NOR		75		
TGG	NLD	150			
VLE	PRT	241	50	723	150
NDS/NDSch	POL	240		720	
TLV	ROU	241	50	723	150
NPEL	SVK	241	50	723	150
MV	SVN	300	62	600	124
WEL	GBR	724	150	966	200
OEL	EU	241	50	723	150
TLV-ACGIH			50		150

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value for water, intermittent release	0,36	mg/l
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral		2		2				
		mg/kg/d		mg/kg/d				
Inhalation	300	300	35,7	12	600	600	300	48
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
Skin		6	VND	3,4	NPI	11	NPI	7
		mg/kg/d		mg/kg/d		mg/kg/d		mg/kg/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

Take the normal precautions for handling chemicals and apply an adequate standard of workplace hygiene.

Users must assess the risks in their workplace and adopt:

- Primary collective protective measures such as adequate natural ventilation and local extraction
- Personal protective equipment to manage the combination of residual risks

Personal protective equipment varies according to the possible exposure and hazardousness of the working conditions, so the final choice depends on the risk assessment.

HAND PROTECTION

Use category III chemical resistant gloves according to the EN 374 standard

Brief contact (splash protection) – non-exhaustive list

Suitable material: LATEX, NATURAL RUBBER (NRL)

Glove thickness: 0.8 mm

Breakthrough time: from 10 to 30 minutes

Breakthrough index: at least 1

Extended contact (immersion) – non-exhaustive list

Suitable material: BUTYL RUBBER (BV) or BUTYL/VITON (VB)



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

Glove thickness: 0.7 mm
Breakthrough time: > 480
Breakthrough index: 6

The gloves must be replaced if there are signs of deterioration. In any case, users must assess the risks to determine the most suitable type of glove for the conditions of use

SKIN PROTECTION

Wear antistatic work clothes and safety footwear that complies with EN ISO 20344.

EYE PROTECTION

Wear safety mask glasses (UNI EN ISO 16321-1).

RESPIRATORY PROTECTION

Use a mask with EN140 and/or EN136 approval, with a type A filter (for organic vapours with boiling points > 65°C; EN 14387) of a class (1, 2, 3) to be chosen according to the risk assessment in the workplace.

ENVIRONMENTAL EXPOSURE CONTROLS

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

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	transparent	
Odour	pungent	
Melting point / freezing point	not available	
Initial boiling point	> 56 °C	
Flammability	flammable liquid	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	-18 °C	
Auto-ignition temperature	229,85 °C	Remark:Literature data Substance:2-BUTOXYETHANOL
Decomposition temperature	not available	
pH	not applicable	Reason for missing data:substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Kinematic viscosity	not available	
Solubility	slightly soluble	Remark:in water
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	0,85 g/cm3	
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Total solids (250°C / 482°F)	0 %	
VOC (Directive 2010/75/EU)	100,00 %	- 850,00 g/litre
VOC (volatile carbon)	78,09 %	- 663,75 g/litre
Explosive properties	not applicable	



SECTION 9. Physical and chemical properties ... / >>

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.

TOLUENE

Avoid exposure to: light.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

ACETONE

Decomposes under the effect of heat.

Attacks: plastic materials.

N-BUTYL ACETATE

Decomposes on contact with: 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.

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.

2-BUTOXYETHANOL

May react dangerously with: aluminium, oxidising agents. Forms peroxides 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, peroxy monosulphuric acid, phosphoryl oxychloride, chromosulphuric acid, fluorine, strong oxidising agents, strong reducing agents. Develops flammable gas on contact with: nitrosyl perchlorate.

N-BUTYL ACETATE

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

10.4. Conditions to avoid

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

2-BUTOXYETHANOL

Avoid exposure to: sources of heat, naked flames.

ACETONE

Avoid exposure to: sources of heat, naked flames.

N-BUTYL ACETATE

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

10.5. Incompatible materials

2-BUTOXYETHANOL

Incompatible with: oxidising substances, alkaline substances, light metals.

ACETONE

Incompatible with: acids, oxidising substances.

N-BUTYL ACETATE

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

10.6. Hazardous decomposition products

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

TOLUENE

When heated to decomposition releases: harsh fumes.

2-BUTOXYETHANOL

May develop: hydrogen.

ACETONE

May develop: ketenes, irritant substances.



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

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.

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

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

TOLUENE

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

N-BUTYL ACETATE

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

Interactive effects

TOLUENE

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

N-BUTYL ACETATE

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

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture:

> 20 mg/l

ATE (Oral) of the mixture:

>2000 mg/kg

ATE (Dermal) of the mixture:

Not classified (no significant component)

ISO-BUTANOL

LD50 (Dermal):

2460 mg/kg coniglio

LD50 (Oral):

3350 mg/kg ratto

LC50 (Inhalation vapours):

18,18 mg/l/6h ratto

TOLUENE

LD50 (Dermal):

12124 mg/kg

LD50 (Oral):

4328 mg/kg

LC50 (Inhalation vapours):

19,07 mg/l/4h

2-BUTOXYETHANOL

LD50 (Dermal):

1100 mg/kg

LD50 (Oral):

1200 mg/kg Guinea pig

LC50 (Inhalation vapours):

3 mg/l/4h Rat

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

ACETONE	
LD50 (Dermal):	7400 mg/kg
LD50 (Oral):	5800 mg/kg
LC50 (Inhalation vapours):	50,1 mg/l/8h
N-BUTYL ACETATE	
LD50 (Dermal):	> 14112 mg/kg
LD50 (Oral):	10736 mg/kg ratto
LC50 (Inhalation vapours):	> 0,74 mg/l/4h

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

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".

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

May cause drowsiness or dizziness

Target organs

Information not available

Route of exposure

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

Information not available

STOT - REPEATED EXPOSURE

May cause damage to organs

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Toxic for aspiration

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

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

12.1. Toxicity**ISO-BUTANOL**

LC50 - for Fish	1430 mg/l/96h Pimephales promelas - Fish
EC50 - for Crustacea	1100 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	1799 mg/l/72h Presudokirchneriella subcapitata
Chronic NOEC for Crustacea	20 mg/l Daphnia magna

TOLUENE

LC50 - for Fish	5,5 mg/l/96h Oncorhynchus kisutch
EC50 - for Crustacea	3,78 mg/l/48h Ceriodaphnia dubia
Chronic NOEC for Fish	1,4 mg/l 40 d
Chronic NOEC for Crustacea	0,74 mg/l 7 d
Chronic NOEC for Algae / Aquatic Plants	10 mg/l/72h Skeletonema costatum

2-BUTOXYETHANOL

LC50 - for Fish	1474 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	1550 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	623 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	> 100 mg/l Brachydanio rerio
Chronic NOEC for Crustacea	> 100 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	88 mg/l

ACETONE

LC50 - for Fish	5540 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	8800 mg/l Daphnia magna
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h Alga
EC10 for Crustacea	2212 mg/l/28d Daphnia pulex
EC10 for Algae / Aquatic Plants	> 100 mg/l/10d Microcystis aeruginosa
Chronic NOEC for Fish	6070 mg/l/96h

N-BUTYL ACETATE

LC50 - for Fish	18 mg/l/96h Pimephales promelas
EC50 - for Crustacea	44 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	674,7 mg/l/72h Desmodesmus subcapitata
Chronic NOEC for Crustacea	23 mg/l 21 d
Chronic NOEC for Algae / Aquatic Plants	196 mg/l/72h Scenedesmus subspicatus

12.2. Persistence and degradability

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

ISO-BUTANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable 90%/14 day

TOLUENE
Solubility in water 100 - 1000 mg/l
Rapidly degradable

2-BUTOXYETHANOL
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

ACETONE
Rapidly degradable

N-BUTYL ACETATE
Solubility in water 1000 - 10000 mg/l
Rapidly degradable 83%

12.3. Bioaccumulative potential

ISO-BUTANOL
Partition coefficient: n-octanol/water 1

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

2-BUTOXYETHANOL
Partition coefficient: n-octanol/water 0,81

ACETONE
Partition coefficient: n-octanol/water -0,23
BCF 3

N-BUTYL ACETATE
Partition coefficient: n-octanol/water 2,3
BCF 15,3

12.4. Mobility in soil

ISO-BUTANOL
Partition coefficient: soil/water 0,31

2-BUTOXYETHANOL
Partition coefficient: soil/water 0,45

N-BUTYL ACETATE
Partition coefficient: soil/water < 3

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Information not available



SECTION 13. Disposal considerations

13.1. Waste treatment methods

For disposal or recovery in EU countries, use the relevant waste code (EWC code) identified in the European Waste Catalogue. The producer of the waste must assign the EWC code according to the sector and type of process. Disposal must be carried out by an authorised waste management company.

After the producer of the waste has assigned the EWC code, the contaminated packaging must be sent for recovery or disposal in compliance with the European waste management regulations. Disposal must be carried out by an authorised waste management company. For waste disposal or recovery in countries outside the EU, comply with the national or local regulations in force. For disposal or recovery of contaminated packaging in countries outside the EU, comply with the national or local regulations in force.

Waste transportation may be subject to regulations on transportation of hazardous goods.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT RELATED MATERIAL
IMDG: PAINT RELATED MATERIAL
IATA: PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: NO
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 163, 367, 640C, 650		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 364
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 353
	Special provision:	A3, A72, A192	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant



SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU:

P5c

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

Product

Point 3 - 40

Contained substance

Point 75

Point 48

TOLUENE

REACH Reg.: 01-2119471310-51-XXXX

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Regulated explosives precursor

The acquisition, introduction, possession or use of that regulated explosives precursor by members of the general public is subject to reporting obligations as set out in Article 9.

All suspicious transactions and significant disappearances and thefts must be reported to the relevant national contact point.

Substances in Candidate List (Art. 59 REACH)

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

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

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

15.2. Chemical safety assessment

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

ISO-BUTANOL

TOLUENE

2-BUTOXYETHANOL

ACETONE

N-BUTYL 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

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

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

Aquatic Chronic 3

Hazardous to the aquatic environment, chronic toxicity, category 3

H225

Highly flammable liquid and vapour.



SECTION 16. Other information ... / >>

H226	Flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Use descriptor system:

PC 9a	Coatings and paints, thinners, paint removers
PROC 13	Treatment of articles by dipping and pouring
PROC 7	Industrial spraying

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
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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
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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



SECTION 16. Other information ... / >>

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)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

- The Merck Index. - 10th Edition
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- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
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- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

08 / 09 / 14.

Exposure Scenarios

Substance TOLUENE
Scenario Title TOLUENE
Revision nr. 1
File EN_CAS 108-88-3_1.pdf

Substance N-BUTYL ACETATE
Scenario Title N-BUTYL ACETATE
Revision nr. 1
File EN_CAS 123-86-4_1.pdf

Substance ACETONE
Scenario Title ACETONE
Revision nr. 1
File EN_CAS 67-64-1_1.pdf

Substance ISO-BUTANOL
Scenario Title ISOBUTYL ALCOHOL
Revision nr. 1
File EN_CAS78_83_1_1.pdf

Substance 2-BUTOXYETHANOL
Scenario Title BUTYL GLYCOL
Revision nr. 2
File EN_CAS 111-76-2_1.pdf