Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

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

1.1. Product identifier

Code: **P304**
Product name **GLUE AND STICKER REMOVER 200 ml AMBRO-SOL**

UFI : **6KA0-60HN-N007-11CF**

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

Intended use **Spray product for removing synthetic glues.**

Identified Uses	Industrial	Professional	Consumer
Consumer	-	-	✓
Industrial Use	✓	-	-
Professional Use	-	✓	-

1.3. Details of the supplier of the safety data sheet

Name **AMBRO-SOL S.R.L. SB**
Full address **Via per Pavone del Mella, 21 - 23**
District and Country **25020 Cigole (BS)**
Italia
Tel. +39 030 9959674

e-mail address of the competent person responsible for the Safety Data Sheet **regulatory@ambro-sol.com**

Supplier: **Importer: Ambro-Sol UK Ltd, Express Park, Bridgwater, Somerset, TA6 4RR, UK, info@ambro-sol.co.uk, phone number / emergency number +44 1278 552999**

1.4. Emergency telephone number

For urgent inquiries refer to

IT - Centro Antiveleni di Milano - Ospedale Niguarda: Tel. 02 66101029 (Italy)
AT - Vergiftungsinformationszentrale (VIZ): Tel. +43 01 406 4343 (Austria)
BE - Belgisch Antigifcentrum: Tel. 070 245245 (Belgium)
BG - НАЦИОНАЛЕН ЦЕНТЪР ПО ТОКСИКОЛОГИЯ: Tel. +359 2 9154 233 (Bulgaria)
HR - Centar za kontrolu otrovanja: Tel. +385 1 2348342 (Croatia)
CY - Τμήμα Επιθεώρησης Εργασίας (TEE): Tel. 1401 (Cyprus)
CZ - Toxikologické informační středisko (TIS): Tel. +420 224 919 293 / +420 224 915 402 (Czech Republic)
DK - Giftlinjen: Ring 82 12 12 12 (Denmark)
EE - Mürgistusteabekeskus: Tel. 16662 (Estonia)
FI - Myrkytystietokeskus: Tel. 0800 147 111 / 09 471 977 (Finland)
FR - ORFILA (INRS): Tél. +33 (0) 1 45 42 59 59 (France)
DE - Giftnotruf der Charité Universitätsmedizin Berlin: Tel. +49 030 19240 (Germany)
GR - Κέντρο Δηλητηριάσεων: Τηλ. 210 7793777 (Greece)
HU - Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ): Tel. +36 80 20 1199 (Hungary)
IS - Eitrunarmiðstöð: Tel. 543 2222 (Iceland)
IE - National Poisons Information Centre (NPIC): Tel. 01 8092566 / 01 8379964 (Republic of Ireland)
LV - Latvian Poisons Information Centre: Tel. +371 67042473 (Latvia)
LT - Apsinuodijimų Informacijos biuras: Tel. 8-5 236 2052 (Lithuania)
LU - Giftinformationszentrum: Tel. +352 8002 5500 (Luxembourg)
NL - Nationaal Vergiftigingen Informatie Centrum (NVIC): Tel. 030 274 88 88 (Netherlands)
NO - Giftinformasjonen: Tel. 22 9 13 00 (Norway)
PL - Pomorskie Centrum Toksykologii: Tel. +58 682 04 04 (Poland)
PT - Centro de Informação Antivenenos (CIAV): Tel. 800 250 250 (Portugal)
RO - Biroul RSI Si Informare Toxicologica: Tel. 021 318 36 06 (Romania)
SK - Národné Toxikologické informačné centrum (NTIC): Tel. 02 5477 4166

(Slovakia)
SI - Center za klinično toksikologijo in farmakologijo: Tel. 112 (Slovenia)
ES - Servicio de Información Toxicológica (SIT) España: Tel.+34 91 562 04 20 (Spain)
SE - Giftinformationscentralen: Tel. 112 (Sweden)
CH - Schweizerisches Toxikologisches Informationszentrum (STIZ): Tel. +41 145 (Switzerland)
GB - National Poisons Information Service (NPIS) Tel. 0344 892 0111 (United Kingdom)
Members of the Public: NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales)

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:

Aerosol, category 1	H222	Extremely flammable aerosol.
	H229	Pressurised container: may burst if heated.
Acute toxicity, category 4	H332	Harmful if inhaled.
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 word: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P501	Dispose of contents/container in accordance with local regulations.
P102	Keep out of reach of children.
P211	Do not spray on an open flame or other ignition source.

SECTION 2. Hazards identification ... / >>

Contains: Hydrocarbons, C6, isoalkanes, <5% n-hexane
2-butoxyethanol

Ingredients (Regulation 648/2004)

30% and more Aliphatic hydrocarbons

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
Hydrocarbons, C6, isoalkanes, <5% n-hexane			
INDEX	*649-328-00-1*	23,5 ≤ x < 25	**Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411, Classification note according to Annex VI to the CLP Regulation: P**
EC	*931-254-9*		
CAS	*64742-49-0*		
REACH Reg.	*012119484651-34-XXXX*		
Propane			
INDEX	*601-003-00-5*	23 ≤ x < 24,5	**Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U**
EC	*200-827-9*		
CAS	*74-98-6*		
REACH Reg.	*01-2119486944-21-0046*		
Dimethyl carbonate			
INDEX	*607-013-00-6*	22 ≤ x < 23,5	**Flam. Liq. 2 H225**
EC	*210-478-4*		
CAS	*616-38-6*		
2-butoxyethanol			
INDEX	*603-014-00-0*	14 ≤ x < 15,5	**Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315 LD50 Oral: 1200 mg/kg, ATE Inhalation mists/powders: 0,501 mg/l**
EC	*203-905-0*		
CAS	*111-76-2*		
REACH Reg.	*01-2119475108-36-XXXX*		
Butane			
INDEX	*601-004-00-0*	10,5 ≤ x < 12	**Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C, U**
EC	*203-448-7*		
CAS	*106-97-8*		
REACH Reg.	*01-2119474691-32-XXXX*		
Isobutane			
INDEX	*601-004-00-0*	1,7 ≤ x < 1,8	**Flam. Gas 1A H220, Press. Gas H280**
EC	*200-857-2*		
CAS	*75-28-5*		
REACH Reg.	*01-2119485395-27-XXXX*		

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

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.
Percentage of propellants: 35,65 %

Hydrocarbons, C6, isoalkanes, <5% n-hexane
Hydrocarbons, C6, isoalkanes, <5% n-hexane: a complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C4 through C11 and boiling in the range of approximately minus 20Â ° C to 190Â ° C (-4Â ° F to 374Â ° F).

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

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

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

Call a POISON CENTER or doctor/physician if you feel unwell.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. 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.
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

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

SECTION 6. Accidental release measures ... / >>

equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

Use inert absorbent material to soak up leaked product. 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

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.5 от 17 Януари 2020г.)
CZE	Česká Republika	NAŘÍZENÍ VLÁDY ze dne 10. května 2021, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2023
EST	Eesti	Ohtlike kemikaalide ja neid sisaldavate materjalide kasutamise töötervishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piirnormid [RT I, 21.12.2022, 14]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÅRDSMINISTERIETS 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 μεταλλαξιγόνους 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
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	Jsakymas dėl lietuvos 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 tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 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

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

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
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
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
TUR	Türkiye	Kimyasal Maddelerle Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733; 20.10.2023 / 32345.
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 2023

Dimethyl carbonate

Predicted no-effect concentration - PNEC

Normal value in fresh water	500	µg/l
Normal value in marine water	50	µg/l
Normal value for fresh water sediment	NEA	
Normal value for marine water sediment	NEA	
Normal value for water, intermittent release	1	mg/l
Normal value of STP microorganisms	99	mg/l
Normal value for the terrestrial compartment	NEA	
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		50 mg/kg bw/day		250 µg/kg bw/day				
Inhalation	42,5 mg/m3	42,5 mg/m3	VND	1,1 mg/m3	57 mg/m3	57 mg/m3	NPI	4,4 mg/m3
Skin	8,9 mg/cm2	33,3 mg/kg bw/day	NPI	250 µg/kg bw/day	17,7 mg/cm2	66,7 µg/kg bw/day	NPI	500 mg/kg bw/day

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

Butane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1900				
AGW	DEU	2400	1000	9600	4000	
MAK	DEU	2400	1000	9600	4000	
TLV	DNK	1200	500			
VLA	ESP		1000			Gases
TLV	EST	1500	800			
VLEP	FRA	1900	800			
HTP	FIN	1900	800	2400	1000	
TLV	GRC	2350	1000			
AK	HUN	2350		9400		
RV	LVA	300				
TLV	NOR	600	250			
TGG	NLD	1430				
NDS/NDSCh	POL	1900		3000		
WEL	GBR	1450	600	1810	750	
WEL	GBR		4			RESP
TLV-ACGIH					1000	

Propane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1800				
AGW	DEU	1800	1000	7200	4000	
MAK	DEU	1800	1000	7200	4000	
TLV	DNK	1800	1000			
VLA	ESP		1000			
TLV	EST	1800	1000			
HTP	FIN	1500	800	2000	1100	
TLV	GRC	1800	1000			
RV	LVA	1800	100			
TLV	NOR	900	500			
NDS/NDSCh	POL	1800				
TLV	ROU	1400	778	1800	1000	
ESD	TUR	1800	1000			

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

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	20	SKIN	
MAK	DEU	49	10	98	20	SKIN	Hinweis
TLV	DNK	98	20	246	50	SKIN	E
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	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	
NGV/KGV	SWE	50	10	246	50	SKIN	
NPEL	SVK	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	880	µg/l
Normal value for fresh water sediment	34,6	mg/kg/d
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/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		26,7 mg/kg bw/d		6,3 mg/kg bw/d				
Inhalation	147 mg/m3	426 mg/m3	NPI	59 mg/m3	246 mg/m3	1091 mg/m3	NPI	98 mg/m3
Skin	VND	89 mg/kg bw/d	NPI	75 mg/kg bw/d	VND	89 mg/kg bw/d	NPI	125 mg/kg bw/d

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
NDS/NDSCh	POL	500		1500		

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1301 mg/kg bw/d				
Inhalation				1137 mg/m3				5306 mg/m3
Skin				1377 mg/kg bw/d				13964 mg/kg bw/d

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

Isobutane						
Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			800			

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

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
None required.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
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. Use a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).
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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	aerosol	
Colour	light white	
Odour	characteristic of solvent	
Melting point / freezing point	not available	
Initial boiling point	not available	
Flammability	flammable gas	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	< 0 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not available	Reason for missing data:substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Kinematic viscosity	not available	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	0,68 ÷ 0,72 kg/l	Temperature: 20 °C
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

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

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	97,15 %	-	680,07	g/litre
VOC (volatile carbon)	63,05 %	-	441,34	g/litre
Explosive properties	not applicable			
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.

2-butoxyethanol
Decomposes under the effect of heat.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

Dimethyl carbonate
May form explosive mixtures with: air.
2-butoxyethanol
May react dangerously with: aluminium,oxidising agents.Forms peroxides with: air.

10.4. Conditions to avoid

Avoid overheating.

2-butoxyethanol
Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

Dimethyl carbonate
Avoid contact with: oxidising agents,strong reducing agents.
2-butoxyethanol
Keep away from: strong oxidants.

10.6. Hazardous decomposition products

2-butoxyethanol
May develop: hydrogen.

SECTION 11. Toxicological information

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

Information not available

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

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

SECTION 11. Toxicological information ... / >>

ATE (Inhalation - mists / powders) of the mixture:	2,1 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

Dimethyl carbonate

LD50 (Dermal):	> 2000 mg/kg/ bw rabbit
LD50 (Oral):	> 5000 mg/kg/bw rat
LC50 (Inhalation vapours):	> 5,36 mg/m3/4h rat

Butane

LC50 (Inhalation mists/powders):	> 1442,738 mg/l/15min rat

Propane

LC50 (Inhalation mists/powders):	800000 ppm 15 min

2-butoxyethanol

LD50 (Oral):	1200 mg/kg Guinea pig
LC50 (Inhalation vapours):	3 mg/l Rat
ATE (Inhalation mists/powders):	0,501 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)

Hydrocarbons, C6, isoalkanes, <5% n-hexane

LD50 (Dermal):	> 2000 mg/kg bw rabbit
LD50 (Oral):	> 2000 mg/kg bw rat
LC50 (Inhalation vapours):	> 25 mg/l/4h air (rat)

Isobutane

LC50 (Inhalation mists/powders):	> 1442,738 mg/l/15min rat

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

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Excluded because the aerosol does not allow the accumulation of a significant amount of product in the mouth

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

Dimethyl carbonate

LC50 - for Fish	1134 mg/l/96h 4 days
EC50 - for Crustacea	> 80 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 70 mg/l/72h
Chronic NOEC for Fish	100 mg/l 4 days
Chronic NOEC for Crustacea	25 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	> 50 mg/l 72 h

Butane

LC50 - for Fish	> 24,11 mg/l/96h

Propane

LC50 - for Fish	85,82 mg/l/96h
EC50 - for Crustacea	41,82 mg/l/48h

2-butoxyethanol

LC50 - for Fish	1,474 g/l
EC50 - for Crustacea	1,55 g/l
EC50 - for Algae / Aquatic Plants	911 mg/l/72h
EC10 for Crustacea	134 mg/l 21 days
Chronic NOEC for Fish	100 mg/l 21 days
Chronic NOEC for Crustacea	100 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	88 mg/l 72 h

Hydrocarbons, C6, isoalkanes, <5% n-hexane

LC50 - for Fish	8,41 mg/l/96h
EC50 - for Crustacea	4,7 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 12 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	6,47 mg/l

Isobutane

LC50 - for Fish	> 24,11 mg/l/96h

12.2. Persistence and degradability

Propane
Global Warming Potential (GWP): 3. Ozone Depletion Potential (ODP): 0.

Dimethyl carbonate
Rapidly degradable

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

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

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

Hydrocarbons, C6, isoalkanes, <5% n-hexane
Rapidly degradable

SECTION 12. Ecological information ... / >>

Isobutane
Rapidly degradable

12.3. Bioaccumulative potential

Butane
Partition coefficient: n-octanol/water 1,09

Propane
Partition coefficient: n-octanol/water 1,09

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

12.4. Mobility in soil

Hydrocarbons, C6, isoalkanes, <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. Endocrine disrupting properties

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

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Product residues are to be considered special hazardous waste.
Empty cans, even if completely emptied, must not be dispersed in the environment.
The aerosol container overheated to a temperature above 50 ° C may burst even if it contains a small residue of gas.
Disposal must take place in an authorized place and in compliance with the laws in force.
The transport of waste may be subject to ADR.
European waste catalog code (contaminated containers):
Aerosol as domestic waste is excluded from the application of the aforementioned rule.
The exhausted aerosol for professional / industrial use can be classified:
15.01.11 *: metallic packaging containing dangerous solid porous matrices, including empty pressure containers.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1950

14.2. UN proper shipping name

ADR / RID: AEROSOLS
IMDG: AEROSOLS
IATA: AEROSOLS, FLAMMABLE

SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)

ADR / RID:	Class: 2	Label: 2.1
IMDG:	Class: 2	Label: 2.1
IATA:	Class: 2	Label: 2.1



14.4. Packing group

ADR / RID, IMDG, IATA: -

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	not marine pollutant
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 lt	Tunnel restriction code: (D)
	Special provision: 190, 327, 344, 625		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 lt	
IATA:	Cargo:	Maximum quantity: 150 kg	Packaging instructions: 203
	Passengers:	Maximum quantity: 75 kg	Packaging instructions: 203
	Special provision:	A145, A167, A802	

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: P3a

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

Product
Point 40
Contained substance
Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ 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

SECTION 15. Regulatory information ... / >>

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.

Regulation (EC) No. 648/2004
Ingredients according to Regulation (EC) No. 648/2004

15.2. Chemical safety assessment

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

SECTION 16. Other information

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

Flam. Gas 1A	Flammable gas, category 1A
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Flam. Liq. 2	Flammable liquid, category 2
Press. Gas (Liq.)	Liquefied gas
Press. Gas	Pressurised gas
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, 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 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level

SECTION 16. Other information ... / >>

- PMT: Persistent, mobile and toxic
- 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
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII 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.

SECTION 16. Other information ... / >>

Changes to previous review:
The following sections were modified:
02 / 04 / 08 / 12 / 13 / 14.