

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: **V400/MET**
Product name: **METALLIC EFFECT400 ml AMBRO-SOL**
UFI: **MVJ0-706D-P009-81VX**

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

Intended use: **Metallic effect spray paint**

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 Antiveneni 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	H335	May cause respiratory 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.

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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic 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 not 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.

SECTION 2. Hazards identification ... / >>

P101 If medical advice is needed, have product container or label at hand.
P211 Do not spray on an open flame or other ignition source.

Contains: Xylene
Hydrocarbons, C6, isoalkanes, <5% n-hexane
Isobutyl acetate

VOC (Directive 2004/42/EC) :

Special finishes - All types.

VOC given in g/litre of product in a ready-to-use condition : 561,86

Limit value: 840,00

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)
Xylene		
INDEX 601-022-00-9	$20,5 \leq x < 22$	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: C LD50 Dermal: >1700 mg/kg, ATE Inhalation mists/powders: 1,5 mg/l
EC 215-535-7		
CAS 1330-20-7		
REACH Reg. 01-2119488216-32-XXXX		
Hydrocarbons, C6, isoalkanes, <5% n-hexane		
INDEX 649-328-00-1	$18 \leq x < 19,5$	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	$16,5 \leq x < 18$	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		
Petroleum Resins		
INDEX	$11 \leq x < 12,5$	Aquatic Chronic 4 H413
EC 265-116-8		
CAS 64742-16-1		
REACH Reg. Numero di registrazione dell'unità monomerica (EC 265-198-5; CAS 64742-94-5): 01-2119510128-50-XXXX		
Butane		
INDEX 601-004-00-0	$7 \leq x < 8,5$	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		
Copper		
INDEX	$6,5 \leq x < 8$	Acute Tox. 4 H302, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: L LD50 Oral: >300 mg/kg bw
EC 231-159-6		
CAS 7440-50-8		
REACH Reg. 01-2119480154-42-XXXX		

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

Dimethyl carbonate

INDEX 607-013-00-6 $5 \leq x < 6,5$ Flam. Liq. 2 H225
EC 210-478-4
CAS 616-38-6

Aluminium

INDEX 013-002-00-1 $3,3 \leq x < 3,5$ Flam. Sol. 1 H228, Water-react. 2 H261, Classification note according to Annex VI to the CLP Regulation: T
EC 231-072-3
CAS 7429-90-5
REACH Reg. 01-2119529243-45-XXXX

Isobutyl acetate

INDEX 607-026-00-7 $2,3 \leq x < 2,5$ Flam. Liq. 2 H225, STOT SE 3 H336, EUH066, Classification note according to Annex VI to the CLP Regulation: C

EC 203-745-1
CAS 110-19-0

REACH Reg. 01-2119488971-22-XXXX

Copper flakes (coated with aliphatic acid)

INDEX 029-019-01-X $1,9 \leq x < 2$ Acute Tox. 3 H331, Acute Tox. 4 H302, Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1
LD50 Oral: 500 mg/kg, LC50 Inhalation mists/powders: 0,7 mg/kg

EC
CAS 7440-50-8

Isobutane

INDEX 601-004-00-0 $1,213 \leq x < 1,313$ Flam. Gas 1A H220, Press. Gas H280

EC 200-857-2
CAS 75-28-5

REACH Reg. 01-2119485395-27-XXXX

ZINC POWDER - ZINC DUST (STABILISED)

INDEX 030-001-01-9 $1,1 \leq x < 1,2$ Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: T

EC 231-175-3
CAS 7440-66-6

REACH Reg. 01-2119467174-37-XXXX

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

INDEX 918-481-9 $0,7 \leq x < 0,8$ Asp. Tox. 1 H304, EUH066

EC
CAS

REACH Reg. 01-2119457273-39-XXXX

Hydrocarbons, C9, aromatics

INDEX $0,3 \leq x < 0,35$ Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H335, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P

EC 918-668-5
CAS 128601-23-0

REACH Reg. 01-2119455851-35-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: 26,00 %

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 20Å ° C to 190Å ° C (-4Å ° F to 374Å ° 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.

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

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.

Aluminium

Dry sand; Special powder against metal combustion. Unsuitable extinguishing media: water, foam ABC powder, carbon dioxide (CO₂).

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 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.

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

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 töötavishoiu ja tööohutuse nõuded ning töökeskkonna keemiliste ohutegurite piinormid [RT I, 21.12.2022, 14]
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France Décret n° 2021-1849 du 28 décembre 2021
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
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 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
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

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

		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 (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
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

White mineral oil

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations			
		mg/m3	ppm	mg/m3	ppm				
VLEP	ITA	5		10					
Health - Derived no-effect level - DNEL / DMEL									
		Effects on consumers				Effects on workers			
Route of exposure	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic	
	local	systemic	local	systemic	local	systemic	local	systemic	
Oral				25					
Inhalation				mg/kg bw/d					
				34,78					164,56
				mg/m3					mg/m3
Skin				93,02					217,05
				mg/kg bw/d					mg/kg bw/d

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

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Predicted no-effect concentration - PNEC

Normal value for the atmosphere	NPI
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SECTION 8. Exposure controls/personal protection ... / >>

Aluminium								
Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m3	ppm	mg/m3	ppm			
TLV	BGR	2						
MAK	DEU	4						INHAL
MAK	DEU	1,5						RESP
TLV	DNK	5						
TLV	DNK	2						RESP
VLA	ESP	1						RESP
TLV	EST	10						kogu tolm
TLV	EST	4						RESP peentolm
VLEP	FRA	5						
TLV	GRC	10						
AK	HUN	1						RESP
RD	LTU	5						
RV	LVA	2						
TLV	NOR	2						
NDS/NDSch	POL	2,5						INHAL
NGV/KGV	SWE	5						Som Al, Totaldamm
NGV/KGV	SWE	2						RESP Som Al
NPEL	SVK	4						INHAL
NPEL	SVK	1,5						RESP
WEL	GBR	10						INHAL
WEL	GBR	4						RESP
TLV-ACGIH		1	0,9					RESP AI
Predicted no-effect concentration - PNEC								
Normal value in fresh water								VND
Normal value in marine water								VND
Normal value for fresh water sediment								VND
Normal value for marine water sediment								VND
Normal value for water, intermittent release								VND
Normal value of STP microorganisms						20	mg/l	
Normal value for the food chain (secondary poisoning)								VND
Normal value for the terrestrial compartment								VND
Normal value for the atmosphere								NPI
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						NPI		3,95 mg/kg bw/d
Inhalation						NPI	3,72 mg/m3	3,72 mg/m3

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

ZINC POWDER - ZINC DUST (STABILISED)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	2		4		INHAL
MAK	DEU	0,1		0,4		RESP
NPEL	SVK	2				INHAL
NPEL	SVK	0,1				RESP

Predicted no-effect concentration - PNEC

Normal value in fresh water	20,6	µg/l
Normal value in marine water	6,1	µg/l
Normal value for fresh water sediment	117,8	mg/kg/d
Normal value for marine water sediment	56,5	mg/kg/d
Normal value of STP microorganisms	100	µg/l
Normal value for the terrestrial compartment	35,6	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		NPI						
Inhalation	NPI	NPI	NPI	830 µg/kg bw/d	NPI	NPI	NPI	5 mg/m3
Skin	NPI	NPI	NPI	83 mg/kg/d	NPI	NPI	NPI	83 mg/kg bw/d

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

Xylene						
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	220	50	440	100	SKIN
MAK	DEU	220	50	440	100	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	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
TLV-ACGIH			20			

Predicted no-effect concentration - PNEC

Normal value in fresh water	327	µg/l
Normal value in marine water	327	µg/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				5 mg/kg bw/d				
Inhalation	260 mg/m3	260 mg/m3	65 mg/m3	65.3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d		LOW		212 mg/kg bw/d

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		
MV	SVN	2400	1000	9600	4000	
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	
MV	SVN	1800	1000	7200	4000	
ESD	TUR	1800	1000			

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

Isobutyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	241		723		
AGW	DEU	300	62	600	124	
MAK	DEU	480	100	960	200	
TLV	DNK	241	50	723	150	E, Sut Is
VLA	ESP	241	50	723	150	
TLV	EST	500	100	700	150	
VLEP	FRA	241	50	723	150	
TLV	GRC	950	200	950	200	
AK	HUN	241	50	723	150	
VLEP	ITA	241	50	723	150	
RD	LTU	241	50	723	150	
TLV	NOR		75			
TGG	NLD	480				
VLE	PRT	241	50	723	150	
NDS/NDSch	POL	240		720		
TLV	ROU	241	50	723	150	
NGV/KGV	SWE	241	50	723 (C)	150 (C)	
NPEL	SVK	241	50	723	150	
MV	SVN	300	62	600	124	
ESD	TUR	241	50	723	150	
WEL	GBR	724	150	903	187	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	170	µg/l
Normal value in marine water	17	µg/l
Normal value for fresh water sediment	877	µg/kg/d
Normal value for marine water sediment	87,7	µg/kg/d
Normal value of STP microorganisms	200	mg/l
Normal value for the terrestrial compartment	75,5	µg/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		5 mg/kg bw/d		5 mg/kg bw/d				
Inhalation	300 mg/m3		35,7 mg/m3	35,7 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	300 mg/m3
Skin	NPI	5 mg/kg bw/d	NPI	5 mg/kg bw/d	NPI	10 mg/kg bw/d	NPI	10 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

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/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 ... / >>

Copper						
Threshold Limit Value						
Type	Country	TWA/8h	ppm	STEL/15min	ppm	Remarks / Observations
		mg/m3		mg/m3		
TLV	BGR	0,1				
TLV	CZE	1		2		INHAL
MAK	DEU	0,01		0,02		RESP
TLV	DNK	1				
VLA	ESP	0,01				RESP Como Cu
TLV	EST	0,2				
VLEP	FRA	1		2		
HTP	FIN	0,02				RESP Som Cu
TLV	GRC	1		2		
AK	HUN	0,1		0,2		Cu-re számítva
AK	HUN	0,01				RESP Cu-re számítva
RD	LTU	1				INHAL Kaip Cu
RD	LTU	0,2				RESP Kaip Cu
RV	LVA	0,5		1		
TLV	NOR	1				
TGG	NLD	0,1				INHAL
NDS/NDSch	POL	0,2				
TLV	ROU			0,2		Fumuri
NGV/KGV	SWE	0,01				RESP
NPEL	SVK	1				INHAL Ako Cu
NPEL	SVK	0,2				RESP Ako Cu
MV	SVN	1		4		INHAL
ESD	TUR	0,1				
WEL	GBR	0,2				As Cu
TLV-ACGIH		0,2				

Predicted no-effect concentration - PNEC

Normal value in fresh water	7,8	µg/l
Normal value in marine water	5,2	µg/l
Normal value for fresh water sediment	87	mg/kg/d
Normal value for marine water sediment	676	mg/kg/d
Normal value of STP microorganisms	230	µg/l
Normal value for the terrestrial compartment	65	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
Inhalation		20 mg/m3			NPI	20 mg/m3	NPI	
Skin	NPI	273 mg/kg bw/d	NPI	137 mg/kg bw/d	NPI	273 mg/kg bw/d	NPI	137 mg/kg bw/d

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

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

Hydrocarbons, C9, aromatics									
Threshold Limit Value									
Type	Country	TWA/8h		STEL/15min		Remarks / Observations			
		mg/m3	ppm	mg/m3	ppm				
OEL	EU	100	19						
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					11				
Inhalation					32				
					mg/m3				
Skin					11				
					mg/kg bw/d				
						150			
						mg/m3			
						25			
						mg/kg			
						bw/d			

Copper flakes (coated with aliphatic acid)		
Predicted no-effect concentration - PNEC		
Normal value in fresh water	78	mg/l
Normal value in marine water	52	mg/l
Normal value for fresh water sediment	87	mg/l
Normal value for marine water sediment	676	mg/kg
Normal value of STP microorganisms	23	mg/l

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	Copper - Gold - Silver	
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	

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

Auto-ignition temperature	not available		
Decomposition temperature	not available		
pH	not available		
Kinematic viscosity	10" - 13" Coppa Ford		
Solubility	insoluble in water		
Partition coefficient: n-octanol/water	not available		
Vapour pressure	not available		
Density and/or relative density	0,73 ÷ 0,77	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

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2004/42/EC) :	74,92 % - 561,86	g/litre
VOC (volatile carbon)	0	
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.

Isobutyl acetate
 Decomposes under the effect of heat. Attacks various types of plastic materials.

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.

Aluminium
 Develops hydrogen on contact with: water.
 Develops hydrogen on contact with: acids,alkalis,halogens,oxidising agents.

ZINC POWDER - ZINC DUST (STABILISED)

Risk of explosion on contact with: ammonium nitrate, ammonium sulphide, barium peroxide, lead nitride, chlorates, chromium trioxide, sodium hydroxide, oxidising agents, performic acid, acids, tetrachloromethane, water. May react dangerously with: alkaline hydroxides, bromine pentafluoride, calcium chloride, fluorine, hexachloroethane, nitrobenzene, potassium dioxide, carbon disulphide, silver. Reacts with: strong acids, strong alkalis. May develop: hydrogen.

Xylene

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

Isobutyl acetate

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

10.4. Conditions to avoid

Avoid overheating.

ZINC POWDER - ZINC DUST (STABILISED)

Avoid exposure to: heat, moisture.

Isobutyl acetate

Avoid exposure to: sources of heat, naked flames.

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

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.

ZINC POWDER - ZINC DUST (STABILISED)

Incompatible with: water, acids, strong alkalis.

Isobutyl acetate

Incompatible with: strong oxidants, nitrates, strong acids, strong bases.

10.6. Hazardous decomposition products

Information not available

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

Xylene

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

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

Xylene

Toxic action on the central nervous system (encephalopathies); irritant action on the skin, conjunctiva, cornea and respiratory system.

Interactive effects

Xylene

Alcohol intake interferes with the metabolism of the substance, inhibiting it. Consumption of ethanol (0.8 g / kg) before a 4-hour exposure to xylenes vapors (145 and 280 ppm) causes a 50% decrease in the excretion of metilippuric acid, while the blood concentration of xylenes rises about 1.5-2 times. At the same time, there is an increase in the secondary side effects of ethanol. The metabolism of xylenes is enhanced by phenobarbital and 3-methyl-colanthrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with glycine, which results in a decrease in urinary excretion of metilippuric acid. Other industrial products can interfere with the metabolism of xylenes.

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	4,2 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	>2000 mg/kg

Petroleum Resins

LD50 (Oral): 2000 mg/kg

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

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

LD50 (Dermal): 2000 mg/kg bw rat

LD50 (Oral): > 5000 mg/kg bw rat

LC50 (Inhalation vapours): > 4 mg/l/4h rat

Aluminium

LD50 (Oral): > 15000 mg/kg bw rat

LC50 (Inhalation mists/powders): 888 mg/m³/4h rat

SECTION 11. Toxicological information ... / >>

ZINC POWDER - ZINC DUST (STABILISED) LD50 (Oral):	> 2000 mg/kg bw rat
Xylene LD50 (Dermal): LD50 (Oral): LC50 (Inhalation vapours): ATE (Inhalation mists/powders):	> 1700 mg/kg rabbit > 3000 mg/kg rat 5000 ppm/4h rat 1,5 mg/l (figure used for calculation of the acute toxicity estimate of the mixture)
Butane LC50 (Inhalation mists/powders):	> 1442,738 mg/l/15min rat
Propane LC50 (Inhalation mists/powders):	800000 ppm 15 min
Isobutyl acetate LD50 (Dermal): LD50 (Oral): LC50 (Inhalation vapours):	17400 mg/kg bw rabbit 13413 mg/kg bw rat 30 mg/l/6h rat
Hydrocarbons, C6, isoalkanes, <5% n-hexane LD50 (Dermal): LD50 (Oral): LC50 (Inhalation vapours):	> 2000 mg/kg bw rabbit > 2000 mg/kg bw rat > 25 mg/l/4h air (rat)
Copper LD50 (Dermal): LD50 (Oral): LC50 (Inhalation mists/powders):	2000 mg/kg bw rat > 300 mg/kg bw rat 5,11 mg/l/4h rat
Isobutane LC50 (Inhalation mists/powders):	> 1442,738 mg/l/15min rat
Hydrocarbons, C9, aromatics LD50 (Dermal): LD50 (Oral):	> 3000 mg/kg bw rabbit > 4 ml/kg bw rat
Copper flakes (coated with aliphatic acid) LD50 (Dermal): LD50 (Oral): LC50 (Inhalation mists/powders):	> 2000 mg/kg Ratto, maschio e femmina 500 mg/kg Ratto, maschio e femmina 0,7 mg/l/4h Ratto, maschio

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

Xylene
 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) claims that "the data were found to be inadequate for an assessment of carcinogenic potential."

REPRODUCTIVE TOXICITY

SECTION 11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation
 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 is toxic for aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

Petroleum Resins	
EC50 - for Crustacea	100 mg/l/48h
EC50 - for Algae / Aquatic Plants	100 mg/l/72h
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
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Chronic NOEC for Algae / Aquatic Plants	1000 mg/l 72 hours
Aluminium	
LC50 - for Fish	> 78 µg/l/96h
EC50 - for Crustacea	1,5 mg/l/48h
EC50 - for Algae / Aquatic Plants	16,9 µg/l
Chronic NOEC for Fish	25,1 µg/l 7 days
Chronic NOEC for Crustacea	5 µg/l 48 h
Chronic NOEC for Algae / Aquatic Plants	45,7 mg/l 4 days
ZINC POWDER - ZINC DUST (STABILISED)	
LC50 - for Fish	112 µg/l/96h
EC50 - for Crustacea	155 µg/l/48h
Chronic NOEC for Fish	720 µg/l 84 days
Chronic NOEC for Crustacea	300 µg/l 3 months
Chronic NOEC for Algae / Aquatic Plants	20 µg/l 4 days
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
Isobutyl acetate	
LC50 - for Fish	16,6 mg/l/96h
EC50 - for Crustacea	24,6 mg/l/48h
EC50 - for Algae / Aquatic Plants	321,5 mg/l/72h
Chronic NOEC for Crustacea	23,2 mg/l 21 days

SECTION 12. Ecological information ... / >>

Chronic NOEC for Algae / Aquatic Plants	1505 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
Copper	
LC50 - for Fish	> 2,8 µg/l
EC50 - for Crustacea	> 1 µg/l
EC50 - for Algae / Aquatic Plants	> 16,5 µg/l
Chronic NOEC for Fish	9,5 µg/l 6,3 months
Chronic NOEC for Crustacea	9,9 µg/l 46 days
Chronic NOEC for Algae / Aquatic Plants	30 µg/l 7 days
Isobutane	
LC50 - for Fish	> 24,11 mg/l/96h
Hydrocarbons, C9, aromatics	
EC50 - for Algae / Aquatic Plants	> 290 µg/l/72h
Chronic NOEC for Algae / Aquatic Plants	70 µg/l 72 h

12.2. Persistence and degradability

Propane	
Global Warming Potential (GWP): 3. Ozone Depletion Potential (ODP): 0.	
Dimethyl carbonate	
Rapidly degradable	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Rapidly degradable	But failing the 10-day window (100%).
Aluminium	
Solubility in water	0 mg/l
Degradability: information not available	
ZINC POWDER - ZINC DUST (STABILISED)	
Solubility in water	0,1 - 100 mg/l
Degradability: information not available	
Xylene	
Solubility in water	100 - 1000 mg/l
Rapidly degradable	
Butane	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
Propane	
Solubility in water	0,1 - 100 mg/l
Rapidly degradable	
Isobutyl acetate	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
Hydrocarbons, C6, isoalkanes, <5% n-hexane	
Rapidly degradable	
Copper	
Solubility in water	< 0,1 mg/l
Degradability: information not available	

SECTION 12. Ecological information ... / >>

Isobutane
Rapidly degradable

Hydrocarbons, C9, aromatics
Rapidly degradable

12.3. Bioaccumulative potential

Xylene	
Partition coefficient: n-octanol/water	3,12
BCF	25,9

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

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

Isobutyl acetate	
Partition coefficient: n-octanol/water	2,3
BCF	15,3

12.4. Mobility in soil

Xylene	
Partition coefficient: soil/water	2,73
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 \geq than 0,1%.

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

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

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: 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: --	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-E2

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

Product	
Point	40

SECTION 15. Regulatory information ... / >>

Contained substance
Point 75

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

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

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

VOC (Directive 2004/42/EC) :
Special finishes - All types.

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
Flam. Liq. 3	Flammable liquid, category 3
Flam. Sol. 1	Flammable solid, category 1
Water-react. 2	Substance or mixture which in contact with water emits flammable gas, category 2
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied 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 Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H261	In contact with water releases flammable gases.
H280	Contains gas under pressure; may explode if heated.
H331	Toxic if inhaled.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.

SECTION 16. Other information ... / >>

H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
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.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- 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
- 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)

SECTION 16. Other information ... / >>

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.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 14.