

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: V500COPRI/ISA
 Product name: SPRAYS - CUBREMANCHAS 500 ml ISAVAL
 UFI : Y280-H0H4-R00V-U4FK

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

Intended use: White aerosol paint with high hiding power.

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.
 Full address: Via per Pavone del Mella n.21
 District and Country: 25020 Cigole (BS)
 Italia
 Tel. +39 030 9959674
 Fax +39 030 959265

e-mail address of the competent person responsible for the Safety Data Sheet

quality@ambro-sol.com

1.4. Emergency telephone number

For urgent inquiries refer to

Centro Antiveleni di Pavia: Tel. (+39) 0382-24444 (IRCCS Fondazione Maugeri - Pavia)
 Centro Antiveleni di Bergamo: Tel. 800 883300 (Ospedale Papa Giovanni XXIII - Bergamo)
 Centro Antiveleni di Firenze: Tel. 055 7947819 (Ospedale Careggi - Firenze)
 Centro Antiveleni di Roma: Tel. 06 3054 343 (Policlinico Gemelli - Roma)
 Centro Antiveleni di Napoli: Tel. 081 5453333 (Ospedale Cardarelli - Napoli)
 Servicio de Información Toxicológica (SIT) España: Tel. 91 5620420 (Instituto Nacional de Toxicología y Ciencias Forenses - España)
 Centro de Informação Antivenenos (CIAV): Tel. 800 250 250 (Instituto Nacional de Emergência Médica - Portugal)
 Centre Antipoison de Paris: Tel. 01 40 05 48 48 (Centre Antipoison et de Toxicovigilance de Paris - France)
 Pomorskie Centrum Toksykologii: Tel. (58) 682 04 04 (Zakład Toksykologii Klinicznej - Polska)
 American Association of Poison Control Centers (USA): Tel. +1 (800) 222 1222
 Giftnotrufzentralen (Berlin, Deutschland): Tel. +49 030 19 240

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

V500COPRI/ISA - SPRAYS - CUBREMANCHAS 500 ml ISAVAL

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

Hazard classification and indication:

Aerosol, category 1	H222 H229	Extremely flammable aerosol. Pressurised container: may burst if heated.
Eye irritation, category 2	H319	Causes serious eye irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

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.
P211	Do not spray on an open flame or other ignition source.
P102	Keep out of reach of children.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains: Acetone
Methyl acetate
N-butyl acetate

VOC (Directive 2004/42/EC) :

Special finishes.

VOC given in g/litre of product in a ready-to-use condition :	638,19
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%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
Propane		
CAS 74-98-6	$19 \leq x < 23$	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U
EC 200-827-9		
INDEX 601-003-00-5		
Reg. no. 01-2119486944-21-0046		
Titanium dioxide		
CAS 13463-67-7	$15 \leq x < 19$	
EC 236-675-5		
INDEX -		
Reg. no. 01-2119489379-17-XXXX		
N-butyl acetate		
CAS 123-86-4	$15 \leq x < 19$	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1		
INDEX 607-025-00-1		
Reg. no. 01-2119485493-29-XXXX		
Acetone		
CAS 67-64-1	$11 \leq x < 15$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 200-662-2		
INDEX 606-001-00-8		
Reg. no. 01-2119471330-49-XXXX		
Methyl acetate		
CAS 79-20-9	$11 \leq x < 15$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 201-185-2		
INDEX 607-021-00-X		
Reg. no. 01-2119459211-47-XXXX		
Butane		
CAS 106-97-8	$9 \leq x < 11$	Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C U
EC 203-448-7		
INDEX 601-004-00-0		
Reg. no. 01-2119474691-32-XXXX		
Isobutane		
CAS 75-28-5	$1 \leq x < 3$	Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2		
INDEX 601-004-00-0		
Reg. no. 01-2119485395-27-XXXX		

Xylene (mixture of isomers)

CAS 1330-20-7 $0,5 \leq x < 1$ Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Classification note according to Annex VI to the CLP Regulation: C

EC 215-535-7

INDEX 601-022-00-9

Reg. no. 01-2119488216-32-XXXX

Methanol

CAS 67-56-1 $0,5 \leq x < 1$ Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370

EC 200-659-6

INDEX 603-001-00-X

Reg. no. 01-2119433307-44-XXXX

Ethylbenzene

CAS 100-41-4 $0 \leq x < 0,5$ Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373

EC 202-849-4

INDEX 601-023-00-4

Reg. no. 01-2119489370-35-XXXX

Quartz

CAS 14808-60-7 $0 \leq x < 0,5$ STOT RE 2 H373

EC 238-878-4

INDEX -

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: 30,50 %

SECTION 4. First aid measures**4.1. Description of first aid measures**

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

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

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

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

Information not available

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 the 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.

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:

DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZADZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

Propane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	1800	1000	7200	4000	
MAK	DEU	1800	1000	7200	4000	
VLA	ESP		1000			
NDS/NDSch	POL	1800				

Titanium dioxide

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	10				
VLEP	FRA	10				
NDS/NDSch	POL	10				INHAL
WEL	GBR	10				INHAL
WEL	GBR	4				RESP
TLV-ACGIH		10				

Predicted no-effect concentration - PNEC

Normal value in fresh water	184	µg/l
Normal value in marine water	18,4	µg/l
Normal value for fresh water sediment	1000	mg/kg/d
Normal value for marine water sediment	100	mg/kg/d
Normal value for the terrestrial compartment	100	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				700 mg/kg bw/d				
Inhalation							10 mg/m3	

N-butyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
NDS/NDSch	POL	240		720		
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water		180	µg/l
Normal value in marine water		18	µg/l
Normal value for fresh water sediment		981	µg/kg/d
Normal value for marine water sediment		98,1	µg/kg/d
Normal value of STP microorganisms		35,6	mg/l
Normal value for the terrestrial compartment		90,3	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		2 mg/kg bw/d		2 mg/kg bw/d		2		2
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	12 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	48 mg/m3
Skin	NPI	6 mg/kg bw/d	NPI	3,4 mg/kg bw/d	NPI	11 mg/kg bw/d	NPI	7 mg/kg bw/d

Acetone

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
VLEP	FRA	1210	500	2420	1000	
VLEP	ITA	1210	500			
VLE	PRT	1210	500			
NDS/NDSch	POL	600		1800		
WEL	GBR	1210	500	3620	1500	
OEL	EU	1210	500			
TLV-ACGIH			250		500	

Predicted no-effect concentration - PNEC

Normal value in fresh water	10,6	mg/l
Normal value in marine water	1,06	mg/l
Normal value for fresh water sediment	30,4	mg/kg
Normal value for marine water sediment	3,04	mg/kg
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the food chain (secondary poisoning)	29,5	mg/kg
Normal value for the terrestrial compartment	29,5	mg/kg/d
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			VND	62 mg/kg				
Inhalation			VND	200 mg/m3	VND	2,420 mg/m3	VND	1,210 mg/m3
Skin			VND	62 mg/kg			VND	186 mg/kg

Methyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	620	200	1240 (C)	400 (C)	
MAK	DEU	310	100	1240	400	
VLA	ESP	616	200	770	250	
VLEP	FRA	610	200	760	250	SKIN
NDS/NDSCh	POL	250		600		
WEL	GBR	616	200	770	250	
TLV-ACGIH		606	200	757	250	

Predicted no-effect concentration - PNEC

Normal value in fresh water	120	µg/l
Normal value in marine water	12	µg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		44 mg/kg bw/d				
Inhalation	VND	VND	152 mg/m3		VND	VND	305 mg/m3	610 mg/m3
Skin			NPI	44 mg/kg bw/d	NPI	VND	NPI	88 mg/kg bw/d

Butane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	2400	1000	9600	4000	

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Revision nr. 4

Dated 10/10/2020

V500COPRI/ISA - SPRAYS - CUBREMANCHAS 500 ml ISAVAL

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Replaced revision:3 (Dated: 24/07/2020)

MAK	DEU	2400	1000	9600	4000	
VLA	ESP		1000			Gases
VLEP	FRA	1900	800			
NDS/NDSch	POL	1900		3000		
WEL	GBR	1450	600	1810	750	
WEL	GBR		4			RESP
TLV-ACGIH					1000	

Talc

Predicted no-effect concentration - PNEC

Normal value in fresh water		597,97		mg/l
Normal value in marine water		141,26		mg/l
Normal value for fresh water sediment		31,33		mg/kg/d
Normal value for marine water sediment		3,13		mg/kg/d
Normal value for water, intermittent release		597,97		mg/l
Normal value for the atmosphere		10		mg/m3

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		160 mg/kg bw/d		160 mg/kg bw/d				
Inhalation	1,8 mg/m3	1,08 mg/m3	1,8 mg/m3	1,08 mg/m3	3,6 mg/m3	2,16 mg/m3	3,6 mg/m3	2,16 mg/m3
Skin			2,27 mg/cm2	2,16 mg/kg bw/d			4,54 mg/cm2	43,2 mg/kg bw/d

Isobutane

Threshold Limit Value

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

Methyl formate

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	mg/m3 ppm
TLV-ACGIH		246	100	

Predicted no-effect concentration - PNEC

Normal value in fresh water		115		µg/l
Normal value in marine water		11,5		µg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				14,29 mg/m3		VND		
Skin					VND	VND	NPI	

Xylene (mixture of isomers)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
VLEP	ITA	221	50	442	100	SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

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				1,6 mg/kg bw/d				
Inhalation				14,8 mg/m3			289 mg/m3	77 mg/m3
Skin				108 mg/kg bw/d				180 mg/kg bw/d

Methanol
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	270	200	1080	800	SKIN
MAK	DEU	130	100	260	200	SKIN
VLA	ESP	266	200			SKIN
VLEP	FRA	260	200	1300	1000	SKIN 11
VLEP	ITA	260	200			SKIN
VLE	PRT	260	200			SKIN
NDS/NDSCh	POL	100		300		SKIN
WEL	GBR	266	200	333	250	SKIN
OEL	EU	260	200			
TLV-ACGIH		262	200	328	250	SKIN

Predicted no-effect concentration - PNEC

Normal value in fresh water	20,8	mg/l
Normal value in marine water	2,08	mg/l

Normal value for fresh water sediment	77	mg/kg/d
Normal value for marine water sediment	7,7	mg/kg/d
Normal value for water, intermittent release	1,54	g/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL								
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		8 mg/kg bw/d		8 mg/kg bw/d				
Inhalation	50 mg/m3	50 mg/m3	50 mg/m3	50 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3
Skin		8 mg/kg bw/d		8 mg/kg bw/d		40 mg/kg bw/d		40 mg/kg bw/d

Ethylbenzene
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	88	20	176	40	SKIN
MAK	DEU	88	20	176	40	SKIN
VLA	ESP	441	100	884	200	SKIN
VLEP	FRA	88,4	20	442	100	SKIN
VLEP	ITA	442	100	884	200	SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSch	POL	200		400		SKIN
WEL	GBR	441	100	552	125	SKIN
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH		87	20			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	100	µg/l
Normal value in marine water	55	µg/l
Normal value for fresh water sediment	13,7	mg/kg/d
Normal value for marine water sediment	1,37	mg/kg/d
Normal value for water, intermittent release	55	µg/l
Normal value of STP microorganisms	9,6	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,68	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		1,6 mg/kg bw/d				1,6
Inhalation	NPI	VND	NPI	15 mg/m3	293 mg/m3	VND	NPI	77 mg/m3
Skin		NPI		NPI	NPI	NPI	NPI	180 mg/kg bw/d

Ethanol
Threshold Limit Value

AMBRO-SOL S.R.L.

Revision nr. 4

Dated 10/10/2020

V500COPRI/ISA - SPRAYS - CUBREMANCHAS 500 ml ISAVAL

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Replaced revision:3 (Dated: 24/07/2020)

Type	Country	TWA/8h		STEL/15min		Remarks / Observations			
		mg/m3	ppm	mg/m3	ppm				
AGW	DEU	380	200	1520	800				
MAK	DEU	380	200	1520	800				
VLA	ESP			1910	1000				
VLEP	FRA	1900	1000	9500	5000				
NDS/NDSch	POL	1900							
WEL	GBR	1920	1000						
TLV-ACGIH				1884	1000				
Predicted no-effect concentration - PNEC									
Normal value in fresh water				960	µg/l				
Normal value in marine water				790	µg/l				
Normal value for fresh water sediment				3,6	mg/kg/d				
Normal value for marine water sediment				2,9	mg/kg/d				
Normal value for water, intermittent release				2,75	mg/l				
Normal value of STP microorganisms				580	mg/l				
Normal value for the food chain (secondary poisoning)				380	mg/kg				
Normal value for the terrestrial compartment				630	µg/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			NPI		87 mg/kg bw/d				87
Inhalation	950 mg/m3	NPI	NPI		114 mg/m3	1900 mg/m3	NPI	NPI	950 mg/m3
Skin	NPI	NPI	NPI		206 mg/kg bw/d	NPI	NPI	NPI	343 mg/kg bw/d

**Propan-2-ol
Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	500	200	1000	400		
MAK	DEU	500	200	1000	400		
VLA	ESP	500	200	1000	400		
VLEP	FRA			980	400		
NDS/NDSch	POL	900		1200		SKIN	
WEL	GBR	999	400	1250	500		
TLV-ACGIH		492	200	983	400		
Predicted no-effect concentration - PNEC							
Normal value in fresh water				140,9	mg/l		
Normal value in marine water				140,9	mg/l		
Normal value for fresh water sediment				552	mg/kg/d		
Normal value for marine water sediment				552	mg/kg/d		
Normal value for water, intermittent release				140,9	mg/l		
Normal value of STP microorganisms				2,251	g/l		

Normal value for the food chain (secondary poisoning)	160	mg/kg
Normal value for the terrestrial compartment	28	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	VND	VND	VND	26 mg/kg bw/d	VND	VND	VND	VND
Inhalation	VND	VND	VND	89 mg/m3	VND	VND	VND	500 mg/m3
Skin	VND	VND	VND	319 mg/kg bw/d	VND	VND	VND	888 mg/kg

Quartz Threshold Limit Value					
Type	Country	TWA/8h	STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm
VLA	ESP		0,05		RESP
VLEP	FRA	0,1			RESP
VLEP	ITA	0,1			RESP
NDS/NDSch	POL	0,1			RESP
OEL	EU	0,1			RESP
TLV-ACGIH		0,025			

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

None required.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS

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

SECTION 9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	aerosol
Colour	white
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	< 0 °C
Evaporation Rate	Not available
Flammability of solids and gases	flammable gas
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,88 g/ml a 20°C
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	not applicable
Oxidising properties	not applicable

9.2. Other information

VOC (Directive 2004/42/EC) : 72,81 % - 638,19 g/litre

SECTION 10. Stability and reactivity**10.1. Reactivity**

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

N-butyl acetate

Decomposes on contact with: water.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

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

N-butyl acetate

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

Acetone

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

Xylene (mixture of isomers)

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

Ethylbenzene

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

10.4. Conditions to avoid

Avoid overheating.

N-butyl acetate

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

Acetone

Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

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

N-butyl acetate

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

Acetone

Incompatible with: acids,oxidising substances.

10.6. Hazardous decomposition products

Acetone

May develop: ketenes,irritant substances.

Ethylbenzene

May develop: methane,styrene,hydrogen,ethane.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

N-butyl acetate

WORKERS: inhalation; contact with the skin.

Xylene (mixture of isomers)

WORKERS: inhalation; contact with the skin.

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

Methanol

WORKERS: inhalation; contact with the skin.

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

Ethylbenzene

WORKERS: inhalation; contact with the skin.

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

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

N-butyl acetate

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

Xylene (mixture of isomers)

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

Methanol

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

Ethylbenzene

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

Interactive effects

N-butyl acetate

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

Xylene (mixture of isomers)

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

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

> 20 mg/l

ATE (Oral) of the mixture:

>2000 mg/kg

ATE (Dermal) of the mixture:

>2000 mg/kg

Xylene (mixture of isomers)

LD50 (Oral) > 3000 mg/kg rat

LD50 (Dermal) > 1700 mg/kg rabbit

LC50 (Inhalation) 5000 ppm/4h rat

Titanium dioxide

LD50 (Oral) > 10000 mg/kg Rat

LC50 (Inhalation) 5,12 mg/l/4h rat

Butane

V500COPRI/ISA - SPRAYS - CUBREMANCHAS 500 ml ISAVAL

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

Propane

LC50 (Inhalation) 800000 ppm 15 min

Ethylbenzene

LD50 (Oral) 3500 mg/kg Rat

LD50 (Dermal) 15354 mg/kg Rabbit

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

Methanol

LD50 (Oral) 1978 mg/kg bw rat

LC50 (Inhalation) 123,3 mg/l/4h rat

Acetone

LD50 (Oral) 5800 mg/kg bw

LD50 (Dermal) 7426 mg/kg bw guinea pig

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

Methyl acetate

LD50 (Oral) 6482 mg/kg rat

LD50 (Dermal) 2000 mg/kg bw rat

LC50 (Inhalation) 49,2 mg/l/4h rabbit

N-butyl acetate

LD50 (Oral) > 10000 mg/kg Rat

LD50 (Dermal) > 5000 mg/kg rabbit

LC50 (Inhalation) 0,74 mg/l/4h Rat

Isobutane

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

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

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 (mixture of isomers)

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

Ethylbenzene

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

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Xylene (mixture of isomers)

LC50 - for Fish	2,6 mg/l/96h
EC50 - for Algae / Aquatic Plants	4,6 mg/l/72h
EC10 for Crustacea	1,9 mg/l/21d
Chronic NOEC for Fish	1,3 mg/l 56 days
Chronic NOEC for Crustacea	960 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	440 µg/l 73 h

Titanium dioxide

EC50 - for Crustacea	26,45 mg/l/48h
EC50 - for Algae / Aquatic Plants	100 mg/l/72h
Chronic NOEC for Fish	985 µg/l 14 days
Chronic NOEC for Crustacea	2,35 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	1 mg/l 32 days

Butane

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

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

Ethylbenzene

LC50 - for Fish	4,65 mg/l/96h
EC50 - for Crustacea	2,1 mg/l/48h
EC50 - for Algae / Aquatic Plants	5,15 mg/l/72h
Chronic NOEC for Fish	3,3 mg/l 4 days
Chronic NOEC for Crustacea	960 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	3,95 mg/l 4 days

Methanol

LC50 - for Fish	15,4 g/l/96h
Chronic NOEC for Fish	446,7 mg/l 28 days
Chronic NOEC for Crustacea	208 mg/l 21 days

Acetone

LC50 - for Fish	6,83 g/l
EC50 - for Crustacea	8,8 g/l/48h
Chronic NOEC for Crustacea	1,659 g/l 28 days

Methyl acetate
 LC50 - for Fish 300 mg/l/96h
 EC50 - for Crustacea 1,027 g/l
 EC50 - for Algae / Aquatic Plants 120 mg/l/72h
 Chronic NOEC for Algae / Aquatic Plants 120 mg/l 72 h

N-butyl acetate
 LC50 - for Fish 18 mg/l/96h
 EC50 - for Crustacea 32 mg/l/48h
 EC50 - for Algae / Aquatic Plants 246 mg/l/72h
 Chronic NOEC for Crustacea 23,2 mg/l 21 days
 Chronic NOEC for Algae / Aquatic Plants 105 mg/l 72 h

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.

Xylene (mixture of isomers)
 Solubility in water 146 - 208 mg/L @ 25 °C and pH 7 mg/l
 Rapidly degradable

Titanium dioxide
 Solubility in water < 0,001 mg/l
 Degradability: information not available

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

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

Ethylbenzene
 Solubility in water 1000 - 10000 mg/l
 Rapidly degradable

Methanol
 Solubility in water 1000 - 10000 mg/l
 Rapidly degradable

Acetone

V500COPRI/ISA - SPRAYS - CUBREMANCHAS 500 ml ISAVAL

Rapidly degradable

Methyl acetate

Solubility in water 243500 mg/l

Rapidly degradable

N-butyl acetate

Solubility in water 5,3 g/l

Rapidly degradable

Isobutane

Rapidly degradable

12.3. Bioaccumulative potential

Xylene (mixture of isomers)

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

Ethylbenzene

Partition coefficient: n-octanol/water 3,6

Methanol

Partition coefficient: n-octanol/water -0,77

BCF 0,2

Acetone

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

BCF 3

Methyl acetate

Partition coefficient: n-octanol/water 0,18

N-butyl acetate

Partition coefficient: n-octanol/water 2,3

BCF 15,3

12.4. Mobility in soil

Xylene (mixture of isomers)

Partition coefficient: soil/water 2,73

Methyl acetate

Partition coefficient: soil/water 0,18

N-butyl acetate

Partition coefficient: soil/water < 3

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

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

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

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Product residues are considered hazardous special waste. Do not dispose of in wastewater.

Empty cylinders, although completely emptied, should not be dispersed in the environment.

The overheated aerosol container at a temperature above 50 °C may burst even if it contains a small gas residue.

Waste transport may be subject to ADR.

Refer to applicable regulations.

European Waste Catalog (contaminated containers):

Aerosol as a household waste is excluded from the application of the above standard.

The exhausted commercial / industrial aerosol can be classified as: 15.01.10 *: packaging containing residues of dangerous or contaminated substances.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, 1950

IATA:

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: NO
 IMDG: NO
 IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
IMDG:	Special Provision: - EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special Instructions:	A145, A167, A802	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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/EC: P3a

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

Product Point 40

Contained substance

Point 69 Methanol Reg. no.:
01-2119433307-44-
XXXX

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 (EC) Reg. 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.

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
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1

Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
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.
H280	Contains gas under pressure; may burst if heated.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
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 16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - IFA GESTIS website
 - ECHA website
 - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

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

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

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

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

CALCULATION METHODS FOR CLASSIFICATION

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

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

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