Safety data sheet

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

1.1. Product identifier

Code:	**Z358**
Product name	**Lamellar 98% Zinc 500 ml**
Chemical name and synonym	**Protective zinc**

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

Intended use **Cold spray galvanizer consisting of synthetic resin with pigment corrosion inhibitor based on zinc powder.**

Identified Uses	Industrial	Professional	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: 0382 24444 (IRCCS Fondazione Maugeri - Pavia)
Centro Antiveleni di Bergamo: 800 883300 (Ospedali Riuniti - Bergamo)
Centro Antiveleni di Firenze: 055 7947819 (Ospedale Careggi - Firenze)
Centro Antiveleni di Roma: 06 3054343 (Policlinico Gemelli - Roma)
Centro Antiveleni di Napoli: 081 7472870 (Ospedale Cardarelli - Napoli)
Centro Antiveleni in Spagna: 91 5620420 (Inst. Nacional de Toxicología y Ciencias Forenses)
Centro Antiveleni in Francia: 01 40054848 (Centre Antipoison et de Toxicovigilance de Paris)

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 EC Regulation 1907/2006 and subsequent amendments. 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.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
Hazardous to the aquatic environment, chronic toxicity, category 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 words: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H315	Causes skin 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.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor / . . .
P331	Do NOT induce vomiting.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P102	Keep out of reach of children.

Contains: naphtha (petroleum), hydrotreated light
ethyl acetate
naphtha (petrol.) hydrotreated heavy

VOC (Directive 2004/42/EC) :

Special finishes.
VOC given in g/litre of product in a ready-to-use condition :
527,80
840,00

Statements on the aspiration toxicity classification were not included in the label elements, based on section 1.3.3. of Annex I to CLP.

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

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

Identification		**Classification 1272/2008 (CLP)**
PROPANE		
CAS 74-98-6	19 ≤ x < 23	Flam. Gas 1 H220, Press. Gas (Liq.) H280, Note U
EC 200-827-9		
INDEX 601-003-00-5		
Reg. no. 01-2119486944-21-0046		
XYLENE (MIXTURE OF ISOMERS)		
CAS 1330-20-7	11 ≤ x < 15	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Note C
EC 215-535-7		
INDEX 601-022-00-9		
Reg. no. 01-2119488216-32-XXXX		
NAPHTHA (PETROLEUM), HYDROTREATED LIGHT		
CAS 64742-49-0	11 ≤ x < 15	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411, Note P
EC 265-151-9		
INDEX 649-328-00-1		
Reg. no. 012119484651-34-XXXX		
Dimethyl carbonate		
CAS 616-38-6	9 ≤ x < 11	Flam. Liq. 2 H225
EC 210-478-4		
INDEX 607-013-00-6		
Hydrocarbons C4		
CAS 87741-01-3	9 ≤ x < 11	Flam. Gas 1 H220, Press. Gas H280, Note K U
EC 289-339-5		
INDEX 649-113-00-2		
Reg. no. 01-2119480480-41-XXXX		
ALUMINIUM POWDER (STABILIZED)		
CAS 7429-90-5	1 ≤ x < 3	Flam. Sol. 1 H228, Note T
EC 231-072-3		
INDEX -		
Reg. no. 01-2119529243-45-XXXX		
NAPHTHA (PETROL.) HYDROTREATED HEAVY		
CAS 64742-48-9	1 ≤ x < 3	Flam. Liq. 3 H226, Asp. Tox. 1 H304, Note P
EC 265-150-3		
INDEX -		
ETHYL ACETATE		
CAS 141-78-6	1 ≤ x < 3	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 205-500-4		

INDEX 607-022-00-5

Reg. no. 01-2119475103-46-XXXX

ZINC POWDER - ZINC DUST

CAS 7440-66-6	1 ≤ x < 2,5	Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Note T

EC 231-175-3

INDEX 030-001-01-9

Reg. no. 01-2119467174-37-XXXX

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: 30,93 %

Naphtha (petroleum), hydrotreated heavy: 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 C6 through C13 and boiling in the range of approximately 65°C to 230°C (149°F to 446°F).

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 20°C to 190°C (-4°F to 374°F).

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 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:

BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г
CZE	Česká Republika	Nařízení vlády č. 361/2007 Sb. kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
DNK	Danmark	Graensevaerdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
EST	Eesti	Töökeskkonna keemiliste ohutegurite piirnormid 1. Vastu võetud 18.09.2001 nr 293 RT I 2001, 77, 460 - Redaktsiooni jõustumise kp: 01.01.2008
FIN	Suomi	HTP-arvot 2012. Haitallisiksi tunnetut pitoisuudet - Sosiaali- ja terveysministeriön julkaisuja 2012:5
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
HRV	Hrvatska	NN13/09 - Ministarstvo gospodarstva, rada i poduzetništva
HUN	Magyarország	50/2011. (XII. 22.) NGM rendelet a munkahelyek kémiai biztonságáról
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
LTU	Lietuva	DĖL LIETUVOS HIGIENOS NORMOS HN 23:2007 CHEMINIŲ MEDŽIAGŲ 2007 m. spalio 15 d. Nr. V-827/A1-287

LVA	Latvija	Ķīmisko vielu aroda ekspozīcijas robežvērtības (AER) darba vides gaisā 2012
NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
NOR	Norge	Veiledning om Administrative normer for forurensning i arbeidsatmosfære
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r
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 - Diaro da Republica I 26; 2012-02-06
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 20. júna 2007
SVN	Slovenija	Uradni list Republike Slovenije 15. 6. 2007
SWE	Sverige	Occupational Exposure Limit Values, AF 2011:18
TUR	Türkiye	2000/39/EC sayılı Direktifin ekidir
EU	TLV-ACGIH RCP TLV	ACGIH 2016

ACGIH TLVs and BEIs – Appendix H

PROPANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		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		
TLV	EST	1800	1000		
HTP	FIN	1500	800	2000	1100
TLV	GRC	1800	1000		
TLV	NOR	900	500		
NDS	POL	1800			
MV	SVN	1800	1000		
TLV-ACGIH			1000		

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	221		442		SKIN
TLV	CZE	200		400		SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
TLV	EST	221	50	442	100	SKIN
HTP	FIN	220	50	440	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	
TLV	GRC	435	100	650	150	

GVI	HRV	221	50	442	100	SKIN
AK	HUN	221		442		SKIN
VLEP	ITA	221	50	442	100	SKIN
OEL	NLD	210		442		SKIN
TLV	NOR	108	25			SKIN
NDS	POL	100				
VLE	PRT	221	50	442	100	SKIN
NPHV	SVK	221	50	442		SKIN
MV	SVN	221	50			SKIN
MAK	SWE	221	50	442	100	SKIN
ESD	TUR	221	50	442	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 Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers 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

NAPHTHA (PETROLEUM), HYDROTREATED LIGHT

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	EU			72	
RCP TLV		1200			

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers 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

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

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

Hydrocarbons C4

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			918 mg/m3	66,4 µg/m3			1530 mg/m3	2,21 mg/m3
Skin								23,4 mg/kg bw/d

ALUMINIUM POWDER (STABILIZED)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1,5				RESP
TLV	CZE	10				
MAK	DEU	1,5				
MAK	DEU	4				INHAL
MAK	DEU	0,3				RESP
TLV	DNK	5				
VLA	ESP	10				
TLV	EST	4				
VLEP	FRA	5				
WEL	GBR	4				
TLV	GRC	10				
AK	HUN	6				
RD	LTU	5				
RV	LVA	2				
MAC	NLD	10				
TLV	NOR	2				
NDS	POL	1,2				RESP
NDS	POL	2,5				INHAL
NPHV	SVK	4				INHAL
NPHV	SVK	1,5				RESP
MAK	SWE	2				RESP
TLV-ACGIH		1	0,9			

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 Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers 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

NAPHTHA (PETROL.) HYDROTREATED HEAVY

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	DEU	300	50	600	100
NDS	POL	300		900	

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				900 mg/m3				
Skin				300 mg/kg				300 mg/kg

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	BGR	800			
TLV	CZE	700		900	
AGW	DEU	1500	400	3000	800
MAK	DEU	1500	400	3000	800
TLV	DNK	540	150		
VLA	ESP	1460	400		
TLV	EST	500	150	1100	300
HTP	FIN	1100	300	1800	500
VLEP	FRA	1400	400		
WEL	GBR		200		400
TLV	GRC	1400	400		
GVI	HRV		200		400
AK	HUN	1400		1400	
RD	LTU	500	150	1100 (C)	300 (C)
RV	LVA	200			
OEL	NLD	550		1100	
TLV	NOR	550	150		
NDS	POL	200		600	
NPHV	SVK	1500	400	3000	
MAK	SWE	500	150	1100	300
OEL	EU	734	200	1468	400
TLV-ACGIH		1441	400		

Predicted no-effect concentration - PNEC		
Normal value in fresh water	240	µg/l
Normal value in marine water	24	µg/l
Normal value for fresh water sediment	1,15	µg/kg
Normal value for marine water sediment	115	µg/kg
Normal value for water, intermittent release	1,65	mg/l
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	200	mg/kg
Normal value for the terrestrial compartment	148	µg/kg/d
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg				
Inhalation	734 mg/kg	734 mg/kg	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin			VND	37 mg/kg				63 mg/kg

ZINC POWDER - ZINC DUST

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	DEU	0,1		0,4		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

	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		830 µg/kg bw/d				
Inhalation	NPI	NPI	NPI	2,5 mg/m3	NPI	NPI	NPI	5 mg/m3
Skin	NPI	NPI	NPI	83 mg/kg/d	NPI	NPI	NPI	83 mg/kg bw/d

Legend:

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

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

TLV of solvent mixture: 466 mg/m3

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 Directive 89/686/EEC 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.

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

Appearance	aerosol
Colour	light grey
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	a 20°C 0,70 ÷ 0,74 g/ml
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

Total solids (250°C / 482°F)	4,62 %			
VOC (Directive 2004/42/EC) :	72,90 %	-	527,80	g/litre
VOC (volatile carbon) :	85,79 %	-	621,10	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.

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

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

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.

Dimethyl carbonate
May form explosive mixtures with: air.

ETHYL ACETATE
Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

ZINC POWDER - ZINC DUST
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.

10.4. Conditions to avoid

Avoid overheating.

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

10.5. Incompatible materials

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

Dimethyl carbonate
Avoid contact with: oxidising agents,strong reducing agents.

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

ZINC POWDER - ZINC DUST
Incompatible with: water,acids,strong alkalis.

10.6. Hazardous decomposition products

Information not available

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

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

Interactive effects

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

ACUTE TOXICITY

LC50 (Inhalation - vapours) of the mixture:> 20 mg/l
LC50 (Inhalation - mists / powders) of the mixture:Not classified (no significant component)
LD50 (Oral) of the mixture:Not classified (no significant component)
LD50 (Dermal) of the mixture:>2000 mg/kg

ALUMINIUM POWDER (STABILIZED)
15900 mg/kg bw rat
LD50 (Oral)
888 mg/m3/4h rat
LC50 (Inhalation)

ZINC POWDER - ZINC DUST
2000 mg/kg bw rat
LD50 (Oral)

XYLENE (MIXTURE OF ISOMERS)
> 3000 mg/kg rat
LD50 (Oral)
> 1700 mg/kg rabbit
LD50 (Dermal)
5000 ppm/4h rat
LC50 (Inhalation)

PROPANE
800000 ppm 15 min
LC50 (Inhalation)

ETHYL ACETATE
11,3 mg/kg bw rat
LD50 (Oral)
20000 mg/kg bw rabbit
LD50 (Dermal)

NAPHTHA (PETROL.) HYDROTREATED HEAVY
5000 mg/kg bw Rat
LD50 (Oral)
2000 mg/kg rabbit
LD50 (Dermal)

NAPHTHA (PETROLEUM), HYDROTREATED LIGHT
3790 mg/kg bw rat
LD50 (Oral)
3500 mg/kg bw rabbit
LD50 (Dermal)
34,73 mg/l/4h air (rat)
LC50 (Inhalation)

Dimethyl carbonate
5000 mg/kg/bw rat
LD50 (Oral)
2000 mg/kg/ bw rabbit
LD50 (Dermal)
5,36 mg/l/4h rat
LC50 (Inhalation)

Hydrocarbons C4
1442,738 mg/l 15 min rat
LC50 (Inhalation)

SKIN CORROSION / IRRITATION

Causes skin irritation
SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class
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".

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

Toxic for aspiration

SECTION 12. Ecological information

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

12.1. Toxicity

ALUMINIUM POWDER (STABILIZED)	
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	
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

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

PROPANE

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

ETHYL ACETATE

LC50 - for Fish	230 mg/l/96h
EC50 - for Algae / Aquatic Plants	100 mg/l/72h
Chronic NOEC for Fish	9,65 mg/l 32 days
Chronic NOEC for Crustacea	2,4 mg/l 21 days

NAPHTHA (PETROLEUM), HYDROTREATED LIGHT

LC50 - for Fish	8,41 mg/l/96h
EC50 - for Crustacea	4,7 mg/l/48h
EC50 - for Algae / Aquatic Plants	15,65 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	6,47 mg/l

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 C4

LC50 - for Fish	19 mg/l/96h
EC50 - for Crustacea	11 mg/l/48h

12.2. Persistence and degradability

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

ALUMINIUM POWDER (STABILIZED)

Solubility in water	0 mg/l

Biodegradability: Information not available

ZINC POWDER - ZINC DUST

Solubility in water	0,1 - 100 mg/l

Biodegradability: Information not available

XYLENE (MIXTURE OF ISOMERS)
Solubility in water 146 - 208 mg/L @ 25 °C and pH 7 mg/l
Rapidly biodegradable

PROPANE
Solubility in water 0,1 - 100 mg/l
Rapidly biodegradable

ETHYL ACETATE
Solubility in water > 10000 mg/l
Rapidly biodegradable

NAPHTHA (PETROL.) HYDROTREATED HEAVY
Rapidly biodegradable

NAPHTHA (PETROLEUM), HYDROTREATED LIGHT
Rapidly biodegradable

Dimethyl carbonate
Rapidly biodegradable

Hydrocarbons C4
Rapidly biodegradable

12.3. Bioaccumulative potential

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

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

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

BCF	30

12.4. Mobility in soil

XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
NAPHTHA (PETROL.) HYDROTREATED HEAVY	
Partition coefficient: soil/water	1,78
NAPHTHA (PETROLEUM), HYDROTREATED LIGHT	
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 greater than 0,1%.

12.6. Other adverse effects

Hydrocarbons C4
German Water Hazard Class (WGK): 1.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

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, IATA:	1950

14.2. UN proper shipping name

ADR / RID:	AEROSOLS
IMDG:	AEROSOLS (NAPHTHA (PETROLEUM), HYDROTREATE

IATA:	D LIGHT) 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 L	Tunnel restriction code: (D)
	Special Provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 100 Kg	Packaging instructions: 130
	Pass.:	Maximum quantity: 25 Kg	Packaging instructions: 130
	Special Instructions:	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-E2

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

Product
Point 40

Substances in Candidate List (Art. 59 REACH)

Substances subject to authorisarion (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

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

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

Flam. Gas 1	Flammable gas, category 1
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
Press. Gas (Liq.)	Liquefied gas
Press. Gas	Pressurised gas
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
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.
H280	Contains gas under pressure; may burst if heated.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- 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
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5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
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11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
- Handling Chemical Safety
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- Patty - Industrial Hygiene and Toxicology
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- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 15 / 16.