Safety data sheet

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

1.1. Product identifier

Code: **L7110**
Product name **LEVANTE - FC 15**

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

Intended use **rust converter. Professional use only.**

Uses advised against: no one in particular

1.3. Details of the supplier of the safety data sheet

Name **ILPA ADESIVI SRL**
Full address **Via Ferorelli, 4**
District and Country **70132 BARI (BARI)**
ITALIA
Tel. + 39 0805383837
Fax + 39 0805377807
e-mail address of the competent person
responsible for the Safety Data Sheet **aborricelli@ilpa.it**

1.4. Emergency telephone number

For urgent inquiries refer to **+ 39 3355405598 (Technical support - 8,00 - 17,00 - LUN-VEN; MON-FRI)(Italian time zone)**
Safety Executive (HSE) Chemicals Regulation Directorate 5S.1 Redgrave Court, Merton Road, Bootle, Merseyside. L20 7HS.
Phone: +44 151 9513317

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:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Specific target organ toxicity - single exposure, category 1	H370	Causes damage to organs.
Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
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:

H225	Highly flammable liquid and vapour.
H370	Causes damage to organs.
H314	Causes severe skin burns and eye damage.
H336	May cause drowsiness or dizziness.
EUH071	Corrosive to the respiratory tract.

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves / clothing and eye / face protection.
P310	Immediately call a POISON CENTER / doctor

Contains: FORMIC ACID
CYCLOHEXANONE
METHYL ETHYL KETONE

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:

Identification.	**Conc. %.**	**Classification 1272/2008 (CLP).**
METHYL ETHYL KETONE		
CAS. 78-93-3	58 - 62	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC. 201-159-0		
INDEX. 606-002-00-3		

Reg. no. 01-2119457290-43		
FORMIC ACID		
CAS. 64-18-6	13,5 - 15	Flam. Liq. 3 H226, Acute Tox. 3 H331, STOT SE 1 H370, Acute Tox. 4 H302, Skin Corr. 1A H314, EUH071, Note B
EC. 200-579-1		
INDEX. 607-001-00-0		
Reg. no. 01-2119491174-37		
2-METHOXY-1-METHYLETHYL ACETATE		
CAS. 108-65-6	3 - 3,5	Flam. Liq. 3 H226
EC. 203-603-9		
INDEX. 607-195-00-7		
Reg. no. 01-2119475791-29		
CYCLOHEXANONE		
CAS. 108-94-1	3 - 3,5	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC. 203-631-1		
INDEX. 606-010-00-7		
Reg. no. 01-2119453616-35		
HYDROCHLORIC ACID		
CAS. 7647-01-0	0,05 - 0,1	Met. Corr. 1 H290, Skin Corr. 1B H314, STOT SE 3 H335, Note B
EC. 231-595-7		
INDEX. 017-002-01-X		
Reg. no. 01-2119484862-27-xxxx		
HYDROQUINONE		
CAS. 123-31-9	0 - 0,05	Carc. 2 H351, Muta. 2 H341, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=10
EC. 204-617-8		
INDEX. 604-005-00-4		
Reg. no. 01-2119524016-51-0001		

Note: Upper limit is not included into the range.

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

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this safety data sheet.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

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

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

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

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised.

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities.

Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition.

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

No use other than specified in Section 1.2 of this safety data sheet.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

AUS	Österreich	Grenzwerteverordnung 2011 - GKV 2011
BEL	Belgique	AR du 11/3/2002. La liste est mise à jour pour 2010
BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г
CHE	Suisse / Schweiz	Valeurs limites d`exposition aux postes de travail 2012. / Grenzwerte am

		Arbeitsplatz
CYP	Κύπρος	Κ.Δ.Π. 268/2001; Κ.Δ.Π. 55/2004; Κ.Δ.Π. 295/2007; Κ.Δ.Π. 70/2012
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
IRL	Éire	Code of Practice Chemical Agent Regulations 2011
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
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	OEL EU	Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
	TLV-ACGIH	ACGIH 2014

METHYL ETHYL KETONE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	295	100	590	200	SKIN.
VLEP	BEL	600	200	900	300	
TLV	BGR	590		885		
VEL	CHE	590	200	590	200	SKIN.
MAK	CHE	590	200	590	200	SKIN.
TLV	CYP	600	200	900	300	
TLV	CZE	600		900		
AGW	DEU	600	200	600	200	SKIN.
MAK	DEU	600	200	600	200	SKIN.
TLV	DNK	145	50			SKIN.

VLA	ESP	600	200	900	300	
TLV	EST	600	200	900	300	
HTP	FIN			300	100	SKIN.
VLEP	FRA	600	200	900	300	SKIN.
WEL	GBR	600	200	899	300	SKIN.
TLV	GRC	600	200	900	300	
GVI	HRV	600	200	900	300	SKIN.
AK	HUN	600		900		
OEL	IRL	600	200	900	300	SKIN.
TLV	ITA	600	200	900	300	
RD	LTU	600	200	900	300	
RV	LVA	200	67	900	300	
TLV	NOR	220	75			
NDS	POL	450		900		
NPHV	SVK	600	200	900		
MAK	SWE	150	50	300	100	
ESD	TUR	600	200	900	300	
OEL	EU	600	200	900	300	
TLV-ACGIH		590	200	885	300	

Predicted no-effect concentration - PNEC.		
Normal value in fresh water	55,8	mg/l
Normal value in marine water	55,8	mg/l
Normal value for fresh water sediment	284,74	mg/kg/d
Normal value for marine water sediment	284,74	mg/kg/d
Normal value for water, intermittent release	55,8	mg/l
Normal value of STP microorganisms	709	mg/l
Normal value for the food chain (secondary poisoning)	1000	mg/kg
Normal value for the terrestrial compartment	22,5	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.			VND	31 mg/kg bw/d				
Inhalation.			VND	106 mg/m3			VND	600 mg/m3
Skin.			VND	412 mg/kg bw/d			VND	1161 mg/kg bw/d

FORMIC ACID

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	AUS	9	5	9	5
VLEP	BEL	9,5	5	19	10
TLV	BGR	9			
VEL	CHE	9,5	5	19	10
MAK	CHE	9,5	5	19	10
TLV	CYP	9	5		
TLV	CZE	9		18	
AGW	DEU	9,5	5	19	10
MAK	DEU	9,5	5	19	10
TLV	DNK	9	5		

VLA	ESP	9	5		
HTP	FIN	5	3	19	10
VLEP	FRA	90	5		
WEL	GBR	9,6	5		
TLV	GRC	9	5		
GVI	HRV	9	5		
AK	HUN	9		9	
OEL	IRL	9	5		
TLV	ITA	9	5		
RD	LTU	9	5		
RV	LVA	9	5		
OEL	NLD			5	
TLV	NOR	9	5		
NDS	POL	5		15	
NPHV	SVK	9	5		
MAK	SWE	5	3	9	5
OEL	EU	9	5		
TLV-ACGIH		9,4	5	18,8	10

Predicted no-effect concentration - PNEC.		
Normal value in fresh water	2	mg/l
Normal value in marine water	0,2	mg/l
Normal value for fresh water sediment	13,4	mg/kg/d
Normal value for marine water sediment	1,34	mg/kg/d
Normal value for water, intermittent release	1	mg/l
Normal value of STP microorganisms	7,2	mg/l
Normal value for the terrestrial compartment	1,5	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.	VND	VND	VND	VND				
Inhalation.	9,5 mg/m3	VND	3 mg/m3	VND	19 mg/m3	VND	9,5 mg/m3	VND
Skin.	VND	VND	VND	VND	VND	VND	VND	VND

CYCLOHEXANONE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	20	5	80	20	SKIN.
VLEP	BEL	40,8	10	81,6	20	SKIN.
TLV	BGR	40,8		81,6		SKIN.
VEL	CHE	100	25	200	50	SKIN.
MAK	CHE	100	25	200	50	SKIN.
TLV	CYP	40,8	10	81,6	20	
TLV	CZE	40		80		SKIN.
AGW	DEU	80	20	80	20	SKIN.
TLV	DNK	40	10			
VLA	ESP	41	10	82	20	SKIN.
TLV	EST	40,8	10	81,6	20	SKIN.
HTP	FIN	41	10	82	20	SKIN.
VLEP	FRA	40,8	10	81,6	20	

WEL	GBR	41	10	82	20	SKIN.
TLV	GRC	200	50	400	100	
GVI	HRV	40,8	10	81,6	20	SKIN.
AK	HUN	40,8		81,6		
OEL	IRL	40,8	10	81,6	20	SKIN.
TLV	ITA	40,8	10	81,6	20	SKIN.
RD	LTU	40,8	10	81,6	20	SKIN.
RV	LVA	40,8	10	81,6	20	SKIN.
OEL	NLD			50		SKIN.
TLV	NOR	80	20			SKIN.
NDS	POL	40		80		
NPHV	SVK	40,8	10	81,6		SKIN.
MV	SVN	40,8	10			SKIN.
MAK	SWE	41	10	81	20	SKIN.
ESD	TUR	40,8	10	81,6	20	SKIN.
OEL	EU	40,8	10	81,6	20	SKIN.
TLV-ACGIH		80	20	201	50	

Predicted no-effect concentration - PNEC.		
Normal value in fresh water	0,0329	mg/l
Normal value in marine water	0,00329	mg/l
Normal value for fresh water sediment	0,168	mg/kg/d
Normal value for marine water sediment	0,0168	mg/kg/d
Normal value for water, intermittent release	0,329	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,0143	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.	VND	1,5 mg/kg bw/d	VND	1,5 mg/kg bw/d				
Inhalation.	40 mg/m3	20 mg/m3	20 mg/m3	10 mg/m3	80 mg/m3	80 mg/m3	40 mg/m3	40 mg/m3
Skin.	VND	1 mg/kg bw/d	VND	1 mg/kg bw/d	VND	4 mg/kg bw/d	VND	4 mg/kg bw/d

2-METHOXY-1-METHYLETHYL ACETATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	275	50	550	100	SKIN.
VLEP	BEL	275	50	550	100	SKIN.
TLV	BGR	275		550		SKIN.
TLV	CYP	275	50	550	100	SKIN.
TLV	CZE	270		550		SKIN.
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
TLV	DNK	275	50			SKIN.
VLA	ESP	275	50	550	100	SKIN.
HTP	FIN	270	50	550	100	SKIN.
VLEP	FRA	275	50	550	100	SKIN.
WEL	GBR	274	50	548	100	
TLV	GRC	275	50	550	100	
AK	HUN	275		550		

OEL	IRL	275	50	550	100	SKIN.
TLV	ITA	275	50	550	100	SKIN.
RD	LTU	250	50	400	75	SKIN.
RV	LVA	275	50	550	100	SKIN.
OEL	NLD	550				
TLV	NOR	270	50			SKIN.
NDS	POL	260		520		
NPHV	SVK	275	50	550		SKIN.
MAK	SWE	250	50	400	75	SKIN.
ESD	TUR	275	50	550	100	SKIN.
OEL	EU	275	50	550	100	SKIN.

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,635	mg/l
Normal value in marine water	0,0635	mg/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value for water, intermittent release	6,35	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,29	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.			VND	1,67 mg/kg bw/d				
Inhalation.			VND	33 mg/m3			VND	275 mg/m3
Skin.			VND	54,8 mg/kg bw/d			VND	153,5 mg/kg bw/d

HYDROCHLORIC ACID

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	DEU	9,5	5	19	10
VLA	ESP	7,6	5	15	10
VLEP	FRA	9	5		
WEL	GBR	9,6	5		
TLV	ITA	8	5	15	10
MAC	NLD			5	
OEL	EU	8	5	15	10
TLV-ACGIH				2,9 (C)	2 (C)

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,036	mg/l
Normal value in marine water	0,036	mg/l
Normal value for fresh water sediment	NEA	
Normal value for marine water sediment	NEA	
Normal value for water, intermittent release	0,045	mg/l
Normal value of STP microorganisms	0,036	mg/l

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
Inhalation.					15 mg/m3	NPI	8 mg/m3	NPI

HYDROQUINONE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	2		4		INHAL.
VLEP	BEL	2				
TLV	BGR	2				SKIN.
TLV	CZE	2		4		SKIN.
TLV	DNK	2				
VLA	ESP	2				
TLV	EST	0,5		1,5		
HTP	FIN	0,5		2		
VLEP	FRA	2				
WEL	GBR	0,5				
TLV	GRC	2		4		
GVI	HRV	0,5				
OEL	IRL	0,5				
RD	LTU	0,5		1,5		
RV	LVA	0,5		1,5		
OEL	NLD	2				
TLV	NOR	0,5				
NDS	POL	1		2		
NPHV	SVK	2				SKIN.
MAK	SWE	0,5		1,5		
TLV-ACGIH		1				

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.

METHYL ETHYL KETONE: Biological Exposure Indices (IBE): methyl ethyl ketone in urine: 2 mg/l. Sampling time: End of shift (ACGIH 2014).

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. 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
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION
Wear category III 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.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
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.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

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	liquid
Colour	ambrato
Odour	acre
Odour threshold.	10 ppm, (METHYL ETHYL KETONE)
pH.	Not applicable.
Melting point / freezing point.	-86°C (NIOSH) (METHYL ETHYL KETONE)
Initial boiling point.	> 35 °C.
Boiling range.	Not available.
Flash point.	< 23 °C.
Evaporation rate	4,60 (N-butyl ACETATE=1, PPG TRUEFINISH) (METHYL ETHYL KETONE).
Flammability (solid, gas)	not applicable
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	1,8 Vol% (NIOSH) (METHYL ETHYL KETONE).
Upper explosive limit.	11,5 Vol% (NIOSH) (METHYL ETHYL KETONE).
Vapour pressure.	10,5 kPa (T=20°C) (NIOSH) (METHYL ETHYL KETONE)
Vapour density	2,41 (air=1) (NIOSH) (METHYL ETHYL KETONE)
Relative density.	0,940 Kg/l
Solubility	partially soluble in water
Partition coefficient: n-octanol/water	0,29 log Pow (NIOSH) (METHYL ETHYL KETONE)
Auto-ignition temperature.	505°C (NIOSH) (METHYL ETHYL KETONE)
Decomposition temperature.	Not available.
Viscosity	100 ± 10 cPs (T=25°C)
Explosive properties	Product does not present an explosion hazard.
Oxidising properties	not applicable

9.2. Other information.

VOC (Directive 2010/75/EC) :	81,31 %	-	764,30	g/litre.
VOC (volatile carbon) :	48,15 %	-	452,57	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.

1-METHOXY-2-PROPANOL ACETATE: stable but with the air it may slowly develop peroxides that explode with an increase in temperature.
BUTANONE: reacts with light metals like aluminium, and with strong oxidising agents; attacks various types of plastic. Decomposes under the effect of heat.
CYCLOHEXANONE: may condense under the effect of heat to form resinous compounds. Attacks various types of plastic.

10.2. Chemical stability.

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

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

1-METHOXY-2-PROPANOL ACETATE: may react violently with oxidising agents and strong acids and alkaline metals.
BUTANONE: may generate peroxides on contact with air, light or oxidising agents. Risk of explosion on contact with: hydrogen peroxide and sulphuric acid. It may react dangerously with: oxidising agents, trichloromethane, alkalis. Forms explosive mixtures with the air.
CYCLOHEXANONE: risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. Can react violently with oxidising agents. Forms explosive mixtures with the air.

10.4. Conditions to avoid.

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

1-METHOXY-2-PROPANOL ACETATE: store in an inert atmosphere, sheletered from moisture because it hydrolises easily.
BUTANONE: avoid exposure to sources of heat.
CYCLOHEXANONE: avoid exposure to sources of heat and naked flames.

10.5. Incompatible materials.

1-METHOXY-2-PROPANOL ACETATE: oxidising agents, strong acids and alkaline metals.
BUTANONE: strong oxidising agents, inorganic acids, ammonia, copper and chloroform.

10.6. Hazardous decomposition products.

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

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.
This product may cause irreversible, serious, non-lethal damages after one single exposure by inhalation. It may also cause irreversible, very serious, non-lethal damages after a single exposure by cutaneous absorption.
This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful.

Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. The vapors and/or powders are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours. Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness. If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.
This product may cause serious ocular lesions, cornea opacity, iris lesions, irreversible eye coloration.
This product contains highly volatile substances, which may cause serious depression of the central nervous system (CNS) and have negative effects, such as drowsiness, dizziness, slow reflexes, narcosis.
Highly corrosive: causes severe damage to the respiratory tract in the event of inhalation.

11.1. Information on toxicological effects.

Data refers to the mix:

ACUTE TOXICITY: Corrosive to the respiratory tract (section 3.2 of the safety data sheet).
SKIN CORROSION/IRRITATION: Causes severe skin burns and eye damage. (section 3.2 of the safety data sheet)
SERIOUS EYE DAMAGE/IRRITATION: Causes severe skin burns and eye damage. (section 3.2 of the safety data sheet)
RESPIRATORY OR SKIN SENSITISATION: No data available
GERM CELL MUTAGENICITY: No data available
CARCINOGENICITY: No data available
REPRODUCTIVE TOXICITY: No data available
STOT-SINGLE EXPOSURE: Causes damage to organs. May cause drowsiness or dizziness. (section 3.2 of the safety data sheet)
STOT-REPEATED EXPOSURE: No data available
ASPIRATION HAZARD: No data available

Data relating to substances hazardous mixture:

1-METHOXY-2-PROPANOL ACETATE: the main way of entry is the skin, whereas the respiratory way is less important owing to the low vapour tension of the product. Concentrations above 100 ppm cause eye irritation, nose and oropharynx. At 1000 ppm disturbance in the equilibrium and severe eye irritation is observed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and ocular irritation on direct contact. No chronic effects have been reported in man.
ACUTE TOXICITY:
LD50 (Oral).8530 mg/kg Rat
LD50 (Dermal).> 5000 mg/kg Rat

METHYL ETHYL KETONE
ACUTE TOXICITY:
LD50 (Oral).2193 mg/kg Rat (read-across from supporting substance, Equivalent or similar to OECD Guideline 423)
LD50 (Dermal).6480 mg/kg Rabbit (Shell Chemical Company. Vol. MSDS-5390-4)
LC50 (Inhalation).5000 ppm Rat (Rif. SDS Brenntag)
SKIN CORROSION/IRRITATION: negative (Rabbit, Read-across from supporting substance, OECD Guideline 404, GLP)
SERIOUS EYE DAMAGE/IRRITATION: Causes eyes irritation (Rabbit, Equivalent or similar to OECD Guideline 405)
RESPIRATORY OR SKIN SENSITISATION: negative (Guinea pig, OECD Guideline 406, GLP)
GERM CELL MUTAGENICITY: negative (Mouse, Equivalent or similar to OECD Guideline 474)
CARCINOGENICITY: No data available
REPRODUCTIVE TOXICITY: NOAEL = 1644 mg/kg/day (Rat, Read-across from supporting substance, Equivalent or similar to OECD Guideline 416)
STOT-SINGLE EXPOSURE: May cause drowsiness or dizziness. (Annex VI, REGULATION (EC) No 1272/2008)
STOT-REPEATED EXPOSURE: NOAEC (inalation) = 5041 ppm (Rat, Equivalente o similare to OECD Guideline 413, GLP)
ASPIRATION HAZARD: No data available.

FORMIC ACID
ACUTE TOXICITY:
LD50 (Oral).730 mg/kg Rat, according or similar to (OECD Guideline 401)
LD50 (Dermal).> 2000 mg/kg Rat, (in according or similar to (OECD Guideline 402))
LC50 (Inhalation).7,85 mg/l/4h Rat, (in according or similar to (OECD Guideline 403))
SKIN CORROSION/IRRITATION: Skin corrosion (Annex VI, REGULATION (EC) No 1272/2008).
SERIOUS EYE DAMAGE/IRRITATION: Causes serious eyes irritation (Annex VI, REGULATION (EC) No 1272/2008).
STOT-REPEATED EXPOSURE: It causes damage to the gastrointestinal tract, respiratory system, cardiovascular system, circulatory system and kidneys. NOAEL = 400 mg/kg bw/day, rat (OECD guideline No. 453 and under GLP).

HYDROCHLORIC ACID
ACUTE TOXICITY:
LC50 (Inhalation).45,6 mg/l Rat, HCl aerosol (5 min exposure)

HYDROQUINONE
ACUTE TOXICITY:
LD50 (Oral).302 mg/kg Rat

LD50 (Dermal).> 900 mg/kg Rat

CYCLOHEXANONE
ACUTE TOXICITY:
LD50 (Oral).1890 mg/kg study report 1966
LC50 (Inhalation).> 6,2 mg/l/4h Rat, (study report 1979)

SECTION 12. Ecological information.

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

12.1. Toxicity.

HYDROCHLORIC ACID
LC50 - Pesci. Lepomis macrochirus 96 hour pH 3.5 - 3.25 (publication 1984)
EC50 - Crostacei. Daphnia magna 48 hour pH 4,9 (OECD Guideline 202, GLP)
EC50 - Alghe / Piante Acquatiche. Chlorella vulgaris 72 hour pH 4,7 (OECD Guideline 201, GLP) .

2-METHOXY-1-METHYLETHYL ACETATE

LC50 - for Fish.	134 mg/l/96h Oncorhynchus mykiss (OECD Guideline 203)
EC50 - for Crustacea.	500 mg/l/48h Daphnia magna (EU Method C.2)

HYDROQUINONE

LC50 - for Fish.	0,044 mg/l/96h Danio rerio
EC50 - for Crustacea.	0,13 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants.	17 mg/l/72h Chlorococcales

METHYL ETHYL KETONE

LC50 - for Fish.	2993 mg/l/96h Pimephales promelas (OECD Guideline 203, GLP)
EC50 - for Crustacea.	308 mg/l/48h Daphnia magna (OECD Guideline 202, GLP)
EC50 - for Algae / Aquatic Plants.	1972 mg/l/72h Selenastrum capricornutum (OECD Guideline 201, GLP)

CYCLOHEXANONE

LC50 - for Fish.	527732 mg/l/96h Pimephales promelas, in according or similar to (OECD guideline 203)

FORMIC ACID

LC50 - for Fish.	130 mg/l/96h Danio rerio, (in according or similar to (OECD Guideline 203))
EC50 - for Crustacea.	365 mg/l/48h Daphnia magna, (in according or similar to (OECD Guideline 202))
EC50 - for Algae / Aquatic Plants.	1240 mg/l/72h Selenastrum capricornutum, (in according or similar to (OECD Guideline 201))

12.2. Persistence and degradability.

HYDROCHLORIC ACID

Solubility in water.	> 10000 mg/l

Biodegradability: Information not available.

2-METHOXY-1-METHYLETHYL ACETATE

Solubility in water. > 10000 mg/l
Rapidly biodegradable.

(OECD Guideline 301 F, GLP)

HYDROQUINONE
Solubility in water. > 10000 mg/l
Rapidly biodegradable.

METHYL ETHYL KETONE
Solubility in water. > 10000 mg/l
Rapidly biodegradable.

(OECD Guideline 301 D, GLP)

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

FORMIC ACID
Solubility in water. mg/l 1000 - 10000
Rapidly biodegradable.

12.3. Bioaccumulative potential.

2-METHOXY-1-METHYLETHYL ACETATE
Partition coefficient: n-octanol/water. 1,2

HYDROQUINONE
Partition coefficient: n-octanol/water. 0,59
BCF. 3,162

METHYL ETHYL KETONE
Partition coefficient: n-octanol/water. 0,3

CYCLOHEXANONE
Partition coefficient: n-octanol/water. 0,86

FORMIC ACID
Partition coefficient: n-octanol/water. -2,1

12.4. Mobility in soil.

HYDROQUINONE
Partition coefficient: soil/water. 1,585

CYCLOHEXANONE
Partition coefficient: soil/water. 1,18

FORMIC ACID
Partition coefficient: soil/water. < 1,25

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.

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.

SECTION 14. Transport information.

14.1. UN number.

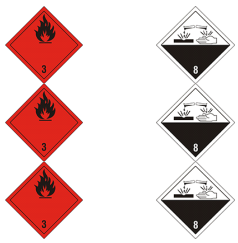
ADR / RID, IMDG, IATA: 2924

14.2. UN proper shipping name.

ADR / RID: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contens: METHYL ETHYL KETONE, FORMIC ACID)
IMDG: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contens: METHYL ETHYL KETONE, FORMIC ACID)
IATA: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contens: METHYL ETHYL KETONE, FORMIC ACID)

14.3. Transport hazard class(es).

ADR / RID: Class: 3 Label: 3 (8)
IMDG: Class: 3 Label: 3 (8)
IATA: Class: 3 Label: 3 (8)



14.4. Packing group.

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards.

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user.

ADR / RID:	HIN - Kemler: 338	Limited Quantities: 1 L	Tunnel restriction code: (D/E)
	Special Provision: -		
IMDG:	EMS: F-E, S-C	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 5 L	Packaging instructions: 363
	Pass.:	Maximum quantity: 1 L	Packaging instructions: 352
	Special Instructions:	A3	

14.7. Transport in bulk according to Annex II of MARPOL73/78 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. P5b FLAMMABLE LIQUIDS

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

Product.

Point *3. Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/ 2008:*
(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;
(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;
(c) hazard class 4.1;
(d) hazard class 5.1.

Point *40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not*.

Substances in Candidate List (Art. 59 REACH).

None.

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.

15.2. Chemical safety assessment.

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

METHYL ETHYL KETONE

SECTION 16. Other information.

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

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Carc. 2	Carcinogenicity, category 2
Muta. 2	Germ cell mutagenicity, category 2
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
Skin Corr. 1A	Skin corrosion, category 1A
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.

H351	Suspected of causing cancer.
H341	Suspected of causing genetic defects.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.

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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4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
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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.

Training for workers:
Worker training should include content, updates and duration depending on the risk profiles assigned to the business sectors they belong.

Classification according to Regulation (EC) Nr. 1272/2008	**Classification procedure**
Flam. Liq. 2, H225	Calculation method
STOT SE 1, H370	Calculation method
Skin Corr. 1A, H314	Calculation method
STOT SE 3, H336	Calculation method