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## FLUSHING FLUID K 5100

Aerosol can

Code: TRFGBB

Rev. 1 dated 21<sup>st</sup> March, 2015

### 1 IDENTIFICATION OF PREPARATION AND SOCIETY

#### 1.1 Product identifier

FLUSHING FLUID K 5100 – Pressurized  
Code: TRFGBB

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

Type of use: descaling and flushing fluid for air conditioning systems  
Industry Sector: automotive and refrigeration  
Application: industrial and professional

#### 1.3 Details of the supplier of the Safety Data Sheet



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#### 1.4 Emergency telephone number

+ 39 0322 838319 Hours: 8.30 am - 12.30 pm / 1.30 pm - 5.30 pm  
Anti-Poison National Centre (24 h /24)

Anti-Poison Centre Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia)  
Anti-Poison Centre Milan 02 66101029 (CAV Hospital Niguarda Ca' Granda - Milano)  
Anti-Poison Centre Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo)  
Anti-Poison Centre Florence 055 7947819 (CAV Hospital Careggi - Florence)  
Anti-Poison Centre Rome 06 3054343 (CAV Policlinico Gemelli - Rome)  
Anti-Poison Centre Rome 06 49978000 (CAV Policlinico Umberto I - Rome)  
Anti-Poison Centre Naples 081 7472870 (CAV Hospital Cardarelli - Naples)

### 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

This product has classified as dangerous under (CE) 1272/2008 (CLP) Directives and subsequent amendments. Therefore, this preparation requires a safety data sheet according to the (CE) 1907/2006 Regulation and subsequent amendments.  
Further information on health and/or environmental hazards can be found in section 11 and 12 of this safety data sheet.

##### Classification and hazards:

Aerosol 2 H223 Flammable aerosol  
H229 Pressurized container: may burst if heated  
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways  
Skin Sens. 1 H317 May cause an allergic skin reaction

#### 2.2 Label elements

Hazard labelling under (EC) 1272/2008 (CLP) Regulation and subsequent amendments



Dangerous pictograms:

Signal word

Warning

Hazard statements (H):

H223 Flammable aerosol  
H229 Pressurized container: may burst if heated  
H304 May be fatal if swallowed and enters airways  
H317 May cause an allergic skin reaction  
EUH066 Repeated exposure may cause skin dryness or cracking

Precautionary statements (P):

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P211 Do not spray on an open flame or other ignition source  
P251 Pressurized container – Do not pierce or burn, even after use  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Contents:

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic  
Essences mix

#### 2.3 Other hazards

Based on available data, the product does not contain any PBT or vPvB substances in percentage greater than 0.1%.



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### 3 COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients:

CAS Number	CE Number	Index Number	REACH Registration Number	% [weight]	Name	Classification
--	927-285-2	--	01-2119480162-45-xxxx	86-90	Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic	Asp. Tox. 1 H304, EUH066
108-65-6	203-603-9	607-195-00-7	01-2119475791-29-xxxx	9-10,5	Acetate of 1-methyl-2-methoxyethyl	Flam. Liq. 3 H226
--	--	--	--	2-2,5	Essence mix	Asp. Tox. 1 H304 Skin Sens. 1 H317 Aquatic Chronic 2 H411
Propellant						
7727-37-9	231-783-9	--	--	11 bar	Nitrogen	Press. Gas H280

### 4 FIRST AID MEASURES

#### 4.1 Description of first aid measures

**EYE CONTACT:** Remove contact lenses, if present. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

**SKIN CONTACT:** In case of contact with skin, wash immediately with plenty of water. Remove contaminated clothing. If irritation or blistering occurs, call a physician.

**INAHLATION:** Remove patient from exposure to fresh air. Administer oxygen if necessary. Obtain immediate medical attention.

**INGESTION:** Unlikely route of exposure. As this product is a gas, refer to the section "Inhalation". Do not induce vomiting without medical advice. Obtain immediate medical attention.

#### 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

In case of accident or if you feel unwell, seek medical advice immediately.

### 5 FIREFIGHTING MEASURES

#### 5.1 Extinguishing media

SUITABLE EXTINGUISHING MEDIA

The fire fighting to the conventional kind: carbon dioxide, foam, dry chemical. For leakage and spillage that have not caught fire, nebulized water may be used to disperse the flammable vapours and protect the people involved in stopping the leakage.

UNSUITABLE EXTINGUISHING MEDIA

Do not use water jets. Water is not effective to extinguish the fire, nevertheless it can be used to cool closed containers exposed to flames to prevent bursts and explosions.

#### 5.2 Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN CASE OF FIRE

Sealed containers exposed to fire heat may generate overpressure and explode. Avoid breathing products of combustion.

#### 5.3 Advice for firefighters

GENERAL INFORMATION

Cool down with water jets the containers to prevent product decomposition and the development of substances potentially hazardous to health. Always wear full fire prevention. Collect extinguishing water to prevent it from draining into the drain. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

EQUIPMENT

Normal clothing to fight the fire, like a compressed air breathing apparatus open circuit (EN 137), full flame retardant (EN 469), flame-resistant gloves (EN 659) and boots for firefighters (HO A29 or A30).

### 6 ACCIDENTAL RELEASE MEASURE

#### 6.1 Personal precautions, protective equipment and emergency procedures

Eliminate any sources of ignition (cigarettes, flames, sparks, etc.) from the air in which the leak occurred.

If aerosol or vapour are released into the air, use breathing equipment.

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.

Do not handle damaged containers or leaked product before donning appropriate protective gear.

Block the leakage if there is no hazard.

#### 6.2 Environmental precautions

Provide adequate ventilation in warehouse or closed storage area. Ensure adequate ventilation to the leak affected area.

The product must not penetrate the sewers, surface water, ground water and neighbouring areas.



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### 6.3 Methods and material for containment and cleaning up

For liquid products, suck into a suitable container (made of material compatible with the product) and soak up any leaked product with absorbent inert material (sand, vermiculite, diatomaceous earth, etc.).

Collect the majority of the remaining material and deposit in containers for disposal.

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.

## 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. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

### 7.2 Conditions for safe storage, including

Store only in the original container. Store in a well-ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials see section 10 for details.

### 7.3 Specific end use(s)

Descaling and flushing fluid for air conditioning systems.

## 8 EXPOSURE CONTROL / PERSONAL PROTECTION

### 8.1 Control parameters

ACETATE OF 1-METHYL-2-METHOXYETHYL								
Threshold Limit Value (TLV)								
Type	State	TWA/8h mg/m <sup>3</sup>	ppm	STEL/15min mg/m <sup>3</sup>	ppm	Note		
AGW	DEU	270	50	270	50		Germany	MAK-und BAT-Werte-Liste 2012
MAK	DEU	270	50	270	50			
VLA	ESP	275	50	550	100	skin	Spain	INSHT - Límites de exposición profesional para agentes químicos en España 2015
VLEP	FRA	275	50	550	100	skin	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
WEL	GRB	274	50	548	100		United Kingdom	EH40/2005 Workplace exposure limits
TLV	GRC	275	50	550	100		Greece (Ελλάδα)	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
TLV	ITA	275	50	550	100	skin	Italy	Legislative decree 9 April 2008, n.81
OEL	NLD	550	50				The Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
NDS	POL	260		520			Poland	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r
NPHV	SVK	275	50	550		skin	Slovenia	NARIADENIE VLÁDY Slovenskej republiky z 20. júna 2007
ESD	TUR	275	50	550	100	skin	Turkey	2000/39/EC sayılı Direktifin ekidir
OEL	EU	275	50	550	100	skin	Europe	Directive 2009/161/UE; Directive 2006/15/CE; Directive 2004/37/CE; Directive 2000/39/CE

### 8.2 Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local aspiration or bad air vent. Personal protection equipment must comply with the rules in force indicated here below.

Provide emergency shower pan with visoculare.

#### HAND PROTECTION

Protect your hands with work gloves, category III (see Standard EN 374).

Selection of glove materials, the following factors should be considered: compatibility, degradation, breakthrough time and permeation rate.

In the case of preparations, glove resistance should be tested before use because it is not foreseeable. The gloves have a durability that depends on the duration of exposure and method of use.

#### SKIN PROTECTION

Use protective working wear with long and safe shoes for professional use of category II (see Directive 89/686/CEE and EN ISO 20344).

Wash with water and soap after removal of protective clothes.

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

#### EYES PROTECTION

Wear airtight protective goggles (see Standard EN 166).

#### RESPIRATORY PROTECTION



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If you exceed threshold value (e.g. TLV-TWA) of one or more of the substances in the preparation, wear filter half face mask "A" type which class (1, 2 or 3) should be chosen according to the limit concentration of use (refer to Standard EN 14387).

In the presence of gases or vapours of various kinds and/or gases or vapours with particles (aerosols, fumes, mists, etc.) combined filters should be provided. 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 case of 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.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless
Odour	Orange
Odour threshold	Not available
pH	Not available
Melting point / Freezing point	-60 °C (- 76 °F) @ 101.325 kPa [HYDROCARBONS C11-C14 CYCLIC ISOALKANES <2% ESSENCES MIX] -66 °C (- 87 °F) @ 101.325 kPa [ACETATE OF 1-METHYL-2-METHOXYETHYL]
Initial boiling point	143 °C (289 °F)
Boiling range	143 - 173 °C (289 – 343 °C)
Flash point	51 °C (124 °F)
Evaporation rate	Not available
Flammability of solids and gases	Not applicable
Lower flammability limit	Not available
Upper flammability limit	Not available
Lower explosive limit	0,6 % (V/V)
Upper explosive limit	7 % (V/V)
Vapour pressure	0,035 kPa at 20 °C (68 °F) [HYDROCARBONS C11-C14 CYCLIC ISOALKANES <2% ESSENCES MIX] 355 Pa at 20 °C (68 °F) [ACETATE OF 1-METHYL-2-METHOXYETHYL]
Vapour density (air = 1)	Not available
Relative density	0,755-0,765 g/cc a 20 °C
Solubility	Not available data for mixture
Partition coefficient: n-octanol/water:	Not available data for mixture
Auto-ignition temperature	232 °C (450 °F) @ 101.325 kPa [HYDROCARBONS C11-C14 CYCLIC ISOALKANES <2% ESSENCES MIX] 333 °C (631 °F) @ 101.325 kPa [1,2-DICHLOROPROPANE]
Decomposition temperature	Not available
Viscosity	1.75 mm <sup>2</sup> /s [HYDROCARBONS C11-C14 CYCLIC ISOALKANES <2% ESSENCES MIX] 1.13 - 1.23 mm <sup>2</sup> /s [ACETATE OF 1-METHYL-2-METHOXYETHYL]
Explosive properties	Not available data
Oxidizing properties	No oxidizing properties

### 9.2 Other information

VOC (Directive 2010/75/CE) :	98,00 % - 744,80 g/litre
VOC (volatile carbon)	80,12 % - 608,87 g/litre

## 10 STABILITY AND REACTIVITY

### 10.1 Reactivity

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

ACETATE OF 1-METHYL-2-METHOXYETHYL: stable but with the air it may slowly develop peroxides that explode with an increase in temperature.

### 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.

ACETATE OF 1-METHYL-2-METHOXYETHYL: may react violently with oxidising agents and strong acids and alkaline metals.

### 10.4 Conditions to avoid

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

ACETATE OF 1-METHYL-2-METHOXYETHYL: store in an inert atmosphere, sheltered from moisture because it hydrolysis easily.

### 10.5 Incompatible materials

ACETATE OF 1-METHYL-2-METHOXYETHYL: copper, aluminium and their alloys.

### 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.

## 11 TOXICOLOGICAL INFORMATION



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### 11.1 Information on toxicological effects

In the absence of experimental toxicological 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.

The introduction of even small quantities of this liquid into the respiratory system in case of ingestion or vomit may cause bronchopneumonia and pulmonary edema.

Upon contact with the skin causes sensitization (dermatitis). Dermatitis derives as a result of an inflammation of the skin, that begins in the skin areas which repeatedly come into contact with the sensitizing agent. The skin lesions may include erythema, edema, papules, vesicles, pustules, scales, ulcerations and exudative phenomena, which vary depending on the stage of the disease and the affected areas. In the acute phase prevail erythema, edema and exudation. In the chronic stages prevail scales, dryness, ulcerations and skin thickening.

ACETATE OF 1-METHYL-2-METHOXYETHYL: 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.

#### a) Acute toxicity

Substance	LD50 (Oral)	LD50 (Skin)	LC50 (Inhalation)
Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic	5000 - 15000 mg/kg (rat)	3160 - 5000 mg/kg (rabbit)	(8 h) 41 - 4467 ppm (rat)
Acetate of 1-methyl-2-methoxyethyl	8530 mg/kg (rat)	> 5000 mg/kg (rat)	LC0 (3 h) 2000 ppm (mouse)

#### b) Skin corrosion / skin irritation

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Method: OECD Guideline 404 - Result: non-irritating

Acetate of 1-methyl-2-methoxyethyl. Method: OECD Guideline 404 - Result: non-irritating

#### c) Serious eyes damages / eyes irritation

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Method: OECD Guideline 405 - Result: non-irritating

Acetate of 1-methyl-2-methoxyethyl. Method: OECD Guideline 405 - Result: non-irritating

#### d) Respiratory or skin sensitization

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Method: OECD Guideline 406 (Skin Sensitisation) - Result: non-sensitizing

Acetate of 1-methyl-2-methoxyethyl. Method: OECD Guideline 406 (Skin Sensitisation) - Result: sensitizing

#### e) Germ cell mutagenicity

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Not classified. Data are conclusive but insufficient for classification

Acetate of 1-methyl-2-methoxyethyl. Reverse mutation test - S. typhimurium - Result: negative

#### f) Cancerogenicity

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Not classified. Data are conclusive but insufficient for classification

Acetate of 1-methyl-2-methoxyethyl. Not identified as a known or anticipated carcinogen by IARC

#### g) Reproductive toxicity

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Not classified. Data are conclusive but insufficient for classification

Acetate of 1-methyl-2-methoxyethyl. No data available

#### h) Specific target organ toxicity (STOT) – single exposure

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Not classified. Data are conclusive but insufficient for classification

Acetate of 1-methyl-2-methoxyethyl. No data available

#### i) Specific target organ toxicity (STOT) – repeated exposure

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic. Not classified. Data are conclusive but insufficient for classification

Acetate of 1-methyl-2-methoxyethyl. No data available

#### j) Aspiration hazard

May be fatal if swallowed and enters airways

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No specific information available, use according to good working practices. Avoid release into the environment. Prevent contamination of soil and water. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation. Take measures to reduce or prevent effects on ground water.

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic	
LL50 - Fish	> 1000 mg/l/24h
LL0 – Shellfish	> 1000 mg/l/48h
EC50 - Seaweed	> 1000 mg/l/72h (Pseudokirchneriella subcapitata)
Acetate of 1-methyl-2-methoxyethyl	
LC50 - Fish.	96 ore: > 100 mg/l
EC50 – Shellfish	408 mg/l/48h (Daphnia magna)
EC50 - Seaweed	> 1000 mg/l/96h (Pseudokirchneriella subcapitata)



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### 12.2 Persistence and degradability

Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatics. Readily biodegradable.

Acetate of 1-methyl-2-methoxyethyl. Readily biodegradable.

### 12.3 Bioaccumulative potential

Substance	Partition coefficient n-octanol/water	BCF
Hydrocarbons C11-C14 cyclic isoalkanes <2% aromatic	No data available	--
Acetate of 1-methyl-2-methoxyethyl	1,2	--

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Based on available data, the product does not contain any PBT or vPvB substances as a percentage greater than 0.1%.

### 12.6 Other adverse effects

None known

## 13 DISPOSAL CONSIDERATIONS

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. Avoid littering. Do not contaminate soil, sewers and waterways.

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.

## 14 TRANSPORT INFORMATION

People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergencies.

### 14.1 UN number

ADR / RID, IMDG, IATA: 1950

### 14.2 UN proper shipping name

ADR / RID: AEROSOL, flammable  
 IMDG: AEROSOLS, flammable  
 IATA: Aerosol, flammable

### 14.3 Transport hazard class(es)

ADR / RID, IMDG: Class 2.1 Label



IATA: Class 2.1 Label



### 14.4 Packing group

ADR / RID, IMDG, IATA: n.a.

### 14.5 Environmental hazards

ADR / RID, IMDG, IATA: NO

### 14.6 Special precautions for user

ADR / RID:		Limited quantity 1 L	Tunnel restriction code (D)
IMDG	EMS: F-D, S-U, Storage and handling	Limited quantity 1 L SW1 - SW22	Segregation code: SG69
IATA	Cargo:	Maximum quantity: 150 kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 30 kg G	Packaging instructions: Y203
	Special instructions:	A145 - A167 - A802	

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Not applicable



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### 15 REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso category: P3b

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation (CE) 1907/2006: Product point 3-40

Substances in Candidate List (Art. 59 REACH): none

Substances subject to authorisation (Annex XIV REACH): none

Substances subject to exportation reporting pursuant to (EC) Reg. 689/2008: 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 according to article 41 of Legislative Decree no. 81 of April 9, 2008, unless the risks related to the workers' health and safety are modest and the article 224 comma 2 is respected.

#### 15.2 Chemical safety assessment

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

### 16 OTHER INFORMATION

This Material Safety Data Sheet has been made in compliance with the (EU) Directive 2015/830.

The information included in this document are based on data reported by the supplier of the mixture on its SDS "500TB9 - K5100" Version 8 dated 21<sup>st</sup> January 2016 and have been integrated based on current and reliable knowledge.

Classification in accordance with Regulation (CE) n. 1272/2008	Classification procedure
Aerosol 2	H223 H229 Bridging principle "Aerosol"
Asp. Tox. 1	H304 Method of calculation
Skin Sens. 1	H317 Method of calculation

#### Text of H phrases (Hazard statements) and P phrases (Precautionary statements) in section 2 - 3

Asp. Tox. 1 – H304	May be fatal if swallowed and enters airways
Skin Sens. 1 – H317	May cause an allergic skin reaction
Flam. Liq. 3 – H225	Highly flammable liquid and vapour
Acute Tox. Cat. 4 – H302	Acute toxicity, oral
Acute Tox. Cat. 4 – H332	Acute toxicity, inhalation
Aquatic Chronic 2 – H411	Toxic to aquatic life with long lasting effects
Press. Gas – H280	Contains gas under pressure; may explode if heated
H226	Flammable liquid and vapour
H411	Toxic to aquatic life with long-lasting effects
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P211	Do not spray on an open flame or other ignition source
P251	Pressurized container – Do not pierce or burn, even after use
P261	P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

**Date of revision** 03/2016  
New Version prepared by Mariel Srl  
Print date: 03/2016

#### Abbreviations and acronyms

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS NUMBER: Chemical Abstract Service number
- CE50: Effective concentration (required to induce a 50% effect)
- CLP: Classification Packaging and Labelling (Regulation CE 1272/2008)
- DNEL: Derived No Effect Level
- EC NUMBER: ESIS identificative number (European List of Notified Chemical Substances)
- EmS: Emergency Medical Service
- GHS: Globally Harmonized System of classification and labelling of chemicals
- IC50: Inhibitory Concentration Fifty (50)
- IMDG: International Maritime Dangerous Goods
- INDEX NUMBER: Identificative number included in the Annex VI of the CLP
- LC50: Letal Concentration 50%
- LD50: Letal Dose 50%
- OEL: Occupational Exposure Level



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- PBT: Persistent, Bioaccumalate and Toxic (according to REACH)
- PEC: Predicted Environmental Concentration
- PEL: Predicted Exposure Level
- PNEC: Predicted No Effect Concentration
- REACH: Registration Evaluation and Authorisation of Chemicals (Regulation CE 1907/2006)
- RID: Regulation relating to International carriage of Dangerous goods by rail
- TLV: Threshold Limit Value
- TLV-C: Threshold Limit Value – Ceiling. The concentration in air that should not be exceeded during any part of the working exposure.
- TWA: Time –Weighted Average
- TWA STEL: Time-Weighted Average Short-Term Exposure Limits
- VOC: Volatile Organic Compounds
- vPvB: very Persistent and very Bioaccumulative (according to REACH)
- WGK: Toxic to aquatic organisms (Germany)

### General Bibliography

- Regulation (UE) 1907/2006 of the European Parliament (REACH)
- Regulation (UE) 1272/2008 of the European Parliament (CLP)
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- ECHA Agency website

### Notice of liability

This information should not constitute a guarantee for any specific product properties. This information are only a guidance for safe handling, use, processing, storage, transportation, disposal and release and are not to be considered a warranty or a quality specification.

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The information contained in the safety data sheet are based on our current knowledge and EU and national laws; they describe the product only with regard to safety requirements. The conditions of the user are beyond our knowledge and control. The product should not be used for purpose other than those specified. It is always the responsibility of the user to take all the necessary measures to comply with the requirements of current legislation. The information contained in this form should not considered as a guarantee of its properties.

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