



**VALEO SERVICE SAS  
MEAO**

Revision nr. 1

Dated 13/03/2018

Printed on 17/07/2018

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**BRAKE FLUID DOT 5.1  
(402407-402408-402409)**

## Safety Data Sheet

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

#### 1.1. Product identifier

Product name

**BRAKE FLUID DOT 5.1 - 402407-402408-402409**

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

Intended use

**BRAKE FLUID DOT 5.1 (for B2C)**

Identified Uses	Industrial	Professional	Consumer
Functional Fluids	✓	✓	✓

#### 1.3. Details of the supplier of the safety data sheet

##### Name

**Valeo Service Middle East**

Full address

BP-06 (Blue Shed opposite Agility)

District and Country

Jebel Ali Free Zone- South 1

Dubai

United Arab Emirates

tel. + 90 (216) 587 70 00

faks + 90 (216) 519 93 15

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

**v.st.teknik-destek.mailbox@valeo.com**

#### 1.4. Emergency telephone number

For urgent inquiries refer to

**+ 90 (216) 587 70 00**

### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2015/830.

Hazard classification and indication:

#### 2.2. Label elements

Hazard pictograms: --

Signal words: --

Hazard statements:



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Precautionary statements:

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### 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	x = Conc. %	Classification 1272/2008 (CLP)
<b>CAPRYL AMINE ETHOXYLATE 2-4 EO</b>		
CAS 15520-05-5	$1 \leq x < 4$	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC 239-555-0		
INDEX -		
<b>DIETHYLENE GLYCOL</b>		
CAS 111-46-6	$1 \leq x < 4$	Acute Tox. 4 H302, STOT RE 2 H373
EC 203-872-2		
INDEX 603-140-00-6		
Reg. no. 01-2119457857-21-xxxx		
<b>triethylene glycol monobutyl ether</b>		
CAS 143-22-6	$0 \leq x < 1$	Eye Dam. 1 H318
EC 205-592-6		
INDEX 603-183-00-0		
Reg. no. 01-2119475107-38-xxxx		
<b>DIETHYLENE GLYCOL MONOMETHYL ETHER</b>		
CAS 111-77-3	$0 \leq x < 0,5$	Repr. 2 H361d
EC 203-906-6		
INDEX 603-107-00-6		
Reg. no. 01-2119475100-52-xxxx		

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



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## 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.

### 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

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



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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. If the product is flammable, use explosion-proof equipment. 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. 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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

#### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

#### 8.1. Control parameters

Regulatory References:

DEU	Deutschland	TRGS 900 (Fassung 4.11.2016) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
DNK	Danmark	Graenseværdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República I 26; 2012-02-06
ROU	România	Monitorul Oficial al României 44; 2012-01-19



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SWE Sverige  
EU OEL EU

Occupational Exposure Limit Values, AF 2011:18  
Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.

**DIETHYLENE GLYCOL  
Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	44	10	176	40	
MAK	DEU	44	10	176	40	
TLV	DNK	11	2,5			
WEL	GBR	101	23			
MAK	SWE	45	10	90	20	SKIN

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	20,9	mg/kg
Normal value for marine water sediment	2,09	mg/kg
Normal value for water, intermittent release	10	mg/l
Normal value of STP microorganisms	199,5	mg/l
Normal value for the terrestrial compartment	1,53	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers		Chronic systemic	Effects on workers	
	Acute local	Acute systemic		Chronic local	Chronic systemic
Inhalation		12 mg/m3	12 mg/m3	60 mg/m3	60 mg/m3
Skin		VND	53 mg/kg/d	VND	53 mg/kg/d

**triethylene glycol monobutyl ether**

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	1,5	mg/l
Normal value in marine water	0,15	mg/l
Normal value for fresh water sediment	5,77	mg/kg
Normal value for marine water sediment	0,13	mg/kg
Normal value of STP microorganisms	200	mg/l
Normal value for the terrestrial compartment	0,45	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers		Chronic systemic	Effects on workers	
	Acute local	Acute systemic		Chronic local	Chronic systemic
Oral		VND	2,5 mg/kg		
Inhalation		VND	117 mg/m3	VND	195 mg/m3
Skin		VND	25 mg/kg	VND	50 mg/kg

**DIETHYLENE GLYCOL MONOMETHYL ETHER**

**Threshold Limit Value**



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Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	50,1	10			SKIN
TLV	GRC	50,1	10			
VLEP	ITA	50,1	10			SKIN
VLE	PRT	50,1	10			SKIN
TLV	ROU	50,1	10			SKIN
OEL	EU	50,1	10			SKIN

### Legend:

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

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

### 8.2. Exposure controls

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

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

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

#### 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 I 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, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (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



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### 9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	amber
Odour	ether
Odour threshold	Not available
pH	7-11
Melting point/ freezing point	Not available
Initial boiling point	> 265 °C
Boiling range	Not available
Flash point	> 100 °C
Evaporation Rate	Not available
Flammability of solids and gases	not applicable
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	1,010-1,060
Solubility	soluble
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 350 °C
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

### 9.2. Other information

VOC (Directive 2010/75/EC):	0,49 %
VOC (volatile carbon):	0,24 %

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

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

### 10.2. Chemical stability

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

Hygroscopic.

### 10.3. Possibility of hazardous reactions

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

#### DIETHYLENE GLYCOL MONOMETHYL ETHER

Reacts violently developing heat on contact with: alkaline metals, strong acids, strong oxidants, oleum. Fire hazard. Develops flammable gas on contact with: calcium hypochlorite. Develops hydrogen on contact with: aluminium.

### 10.4. Conditions to avoid



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None in particular. However the usual precautions used for chemical products should be respected.

DIETHYLENE GLYCOL MONOMETHYL ETHER

Possibility of explosion with air due to production of peroxides.

#### 10.5. Incompatible materials

Information not available

#### 10.6. Hazardous decomposition products

DIETHYLENE GLYCOL MONOMETHYL ETHER

When heated to decomposition releases: harsh fumes, zinc alloys.

## SECTION 11. Toxicological information

### 11.1. Information on toxicological effects

#### Metabolism, toxicokinetics, mechanism of action and other information

Information not available

#### Information on likely routes of exposure

Information not available

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

Information not available

#### Interactive effects

Information not available

#### ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:

>2000 mg/kg

LD50 (Dermal) of the mixture:

Not classified (no significant component)

triethylene glycol monobutyl ether

LD50 (Oral) 5170 mg/kg

LD50 (Dermal) 3540 mg/kg





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DIETHYLENE GLYCOL

LD50 (Oral) 19600 mg/kg

LD50 (Dermal) 13300 mg/kg

DIETHYLENE GLYCOL MONOMETHYL ETHER

LD50 (Oral) 5500 mg/kg Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

Serious eye damage/eye irritation

Product:

Species: Bovine cornea

Assessment: No eye irritation

Method: OECD Test Guideline 437

Result: No eye irritation

GLP: yes

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

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class



STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

## SECTION 12. Ecological information

### 12.1. Toxicity

triethylene glycol monobutyl ether

LC50 - for Fish > 2200 mg/l/96h

EC50 - for Crustacea > 500 mg/l/48h

Chronic NOEC for Algae / Aquatic Plants 62,5 mg/l

DIETHYLENE GLYCOL

LC50 - for Fish > 100 mg/l

Chronic NOEC for Fish > 100 mg/l

### 12.2. Persistence and degradability

triethylene glycol monobutyl ether

Rapidly degradable

DIETHYLENE GLYCOL

Rapidly degradable

DIETHYLENE GLYCOL MONOMETHYL  
ETHER

Solubility in water 1000 - 10000 mg/l

Rapidly degradable

### 12.3. Bioaccumulative potential

triethylene glycol monobutyl ether

Partition coefficient: n-octanol/water 0,51

DIETHYLENE GLYCOL MONOMETHYL  
ETHER

Partition coefficient: n-octanol/water -0,47

### 12.4. Mobility in soil

Information not available



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#### 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. Neat product residues should be considered special non-hazardous waste.

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

CONTAMINATED PACKAGING

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

### SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

#### 14.1. UN number

Not applicable

#### 14.2. UN proper shipping name

Not applicable

#### 14.3. Transport hazard class(es)

Not applicable

#### 14.4. Packing group

Not applicable



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#### 14.5. Environmental hazards

Not applicable

#### 14.6. Special precautions for user

Not applicable

#### 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 to the substance or mixture

Seveso Category - Directive 2012/18/EC: None

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

#### Contained substance

Point	54	DIETHYLENE GLYCOL MONOMETHYL ETHER Reg. no.: 01- 2119475100-52-xxxx
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#### Substances in Candidate List (Art. 59 REACH)

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

#### Substances subject to authorisation (Annex XIV REACH)

None

#### Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

#### Substances subject to the Rotterdam Convention:

None



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Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

**15.2. Chemical safety assessment**

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

DIETHYLENE GLYCOL

triethylene glycol monobutyl ether

DIETHYLENE GLYCOL MONOMETHYL ETHER

**SECTION 16. Other information**

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

<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H302</b>	Harmful if swallowed.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H318</b>	Causes serious eye damage.
<b>H315</b>	Causes skin irritation.

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%



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- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

#### GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

#### Note for users:

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

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

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

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

msds for B2C.