# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 1 / 10

## **Safety Data Sheet**

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: LEATHER DYE THINNER
Product name MXC055P-G0000

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

Intended use LEATHER DYE THINNER - DILUENTE PER TINTURE - USO PROFESSIONALE

1.3. Details of the supplier of the safety data sheet

Name GIARDINI DI GIARDINI ANGELO & C. SNC

Full address Via Breda, scn

District and Country 62012 Civitanova Marche (MC)

ITALIA

Tel. +39 0733 897878 Fax +39 0733 897886

e-mail address of the competent person

responsible for the Safety Data Sheet msds@giardinigroup.it

1.4. Emergency telephone number

For urgent inquiries refer to Numeri telefonici dei principali centri antiveleni Italiani (attivi 24/24 ore)

Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca Granda -

Mllano)

Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia) Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo) Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze) Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma) Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberti I - Roma)

## 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 (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Eye irritation, category 2 H319 Causes serious eye irritation.

## 2.2. Label elements

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

Hazard pictograms:



Signal words: Warning

Hazard statements:

H319 Causes serious eye irritation.

Precautionary statements:

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 2 / 10

#### SECTION 2. Hazards identification .../>>

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.

P280 Wear protective gloves/ protective clothing / eye protection / face protection.

P333+P313 If skin irritation or rash occurs: Get medical advice / attention.

P337+P313 If eye irritation persists: Get medical advice / attention.

P370+P378 In case of fire: use . . . to extinguish.

Contains: TURPENTINE

#### 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)

1-METHOXY-2-PROPANOL

CAS 107-98-2 1 ≤ x < 7 Flam. Liq. 3 H226, STOT SE 3 H336

EC 203-539-1 INDEX 603-064-00-3 Reg. no. 01-2119457435-35

TURPENTINE

CAS 8006-64-2  $0.5 \le x < 1.5$ 

0,5 ≤ x < 1,5 Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332,

Asp. Tox. 1 H304, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317,

Aquatic Chronic 2 H411

EC 232-350-7 INDEX 650-002-00-6 ALCOHOLS, C11-15, SECONDARY, CAS 68131-40-8  $0.5 \le x < 1.5$ 

68131-40-8 0,5 ≤ x < 1,5 Acute Tox. 4 H302, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315,

**Aquatic Chronic 3 H412** 

EC INDEX

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

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

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately. INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

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

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

Information not available

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 3 / 10

## **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.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

## 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

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 any incompatibilities

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.

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 4 / 10

#### SECTION 7. Handling and storage .../>>

### 7.3. Specific end use(s)

Information not available

## **SECTION 8. Exposure controls/personal protection**

#### 8.1. Control parameters

#### Regulatory References:

GBR United Kingdom EH40/2005 Workplace exposure limits
ITA Italia Decreto Legislativo 9 Aprile 2008. n.81

EU OEL EU 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.

TLV-ACGIH ACGIH 2017

1-METHOXY-2-PROPANOL												
Threshold Limit Value												
Type	Country	TWA/8h		STEL/15i	min							
		mg/m3	ppm	mg/m3	ppm							
WEL	GBR	375	100	560	150	SKIN						
VLEP	ITA	375	100	568	150	SKIN						
OEL	EU	375	100	568	150	SKIN						
TLV-ACGIH		184	50	368	100							

				TURI	PENTINE	
<b>Threshold Limit</b>	Value					
Туре	Country	TWA/8h		STEL/15r	min	
		mg/m3	ppm	mg/m3	ppm	
WEL	GBR	566	100	850	150	
TLV-ACGIH		111	20			

#### Legend:

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

## 8.2. Exposure controls

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

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

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

Provide an emergency shower with face and eye wash station.

### HAND PROTECTION

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 II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

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).

## 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.

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 5 / 10

## **SECTION 9. Physical and chemical properties**

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

Appearance liauid Colour milky mild Odour Odour threshold Not available Not available рΗ Melting point / freezing point Not available Initial boiling point Not available Boiling range Not available Flash point 23 ≤ T ≤ 60 Evaporation rate Not available Flammability (solid, gas) Not available 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 Not available Relative density Solubility Not available Partition coefficient: n-octanol/water Not available Not available Auto-ignition temperature Decomposition temperature Not available Viscosity Not available Explosive properties Not available Oxidising properties Not available

#### 9.2. Other information

VOC (Directive 2010/75/EC): 7,91 % VOC (volatile carbon): 10,25 %

## **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

Dissolves various plastic materials. Stable in normal conditions of use and storage.

Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

#### **TURPENTINE**

Dissolves rubber.

## 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

May react dangerously with: strong oxidising agents, strong acids.

#### TURPENTINE

Reacts violently with: strong oxidising agents, chlorine. On contact with: tin chloride. Fire hazard. Dissolves rubber. Develops heat on contact with: calcium hypochlorite, chromium trioxide, chromium oxychloride, tin (IV) chloride. Risk of explosion on contact with: nitric acid, fluorine.

In oxygen atmospheres it generates explosive peroxides.

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 6 / 10

## SECTION 10. Stability and reactivity .../>>

## 10.4. Conditions to avoid

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

1-METHOXY-2-PROPANOL Avoid exposure to: air.

#### 10.5. Incompatible materials

#### 1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances, strong acids, alkaline metals.

## 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.

#### TURPENTINE

May develop: acyclic terpenes, monocyclic terpenes, hydroterpenes, pyrones, cymenes.

## **SECTION 11. Toxicological information**

#### 11.1. Information on toxicological effects

lonic compounds of lead may cause chronic poisoning, since lead accumulates in the organism following prolonged and repeated exposures causing damage to the blood and central nervous system. Vapours can also cause irritation of the eyes and respiratory tract. The way of absorption are inhalation and ingestion.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

## Information on likely routes of exposure

1-METHOXY-2-PROPANOL

WORKERS: inhalation; contact with the skin.

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

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

## 1-METHOXY-2-PROPANOL

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

#### Interactive effects

Information not available

## **ACUTE TOXICITY**

 $LC50 \ (Inhalation) \ of the mixture: $> 20 \ mg/l $$ LD50 \ (Oral) \ of the mixture: $> 2000 \ mg/kg $$ LD50 \ (Dermal) \ of the mixture: $> 2000 \ mg/kg $$ $> 2000 \ mg/kg $$ LD50 \ (Dermal) \ of the mixture: $> 2000 \ mg/kg $$ $> 2000$ 

TURPENTINE

LD50 (Oral) 5760 mg/kg Rat

1-METHOXY-2-PROPANOL

 LD50 (Oral)
 4016 mg/kg Rat

 LD50 (Dermal)
 13000 mg/kg Rabbit

ALCOHOLS, C11-15, SECONDARY,

 LD50 (Oral)
 2380 mg/kg RATTO

 LD50 (Dermal)
 11000 mg/kg CONIGLIO

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 7 / 10

## SECTION 11. Toxicological information .../>>

#### SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

#### SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

#### **RESPIRATORY OR SKIN SENSITISATION**

Does not meet the classification criteria for this hazard class

## **GERM CELL MUTAGENICITY**

Does not meet the classification criteria for this hazard class

#### **CARCINOGENICITY**

Does not meet the classification criteria for this hazard class

#### 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

ALCOHOLS, C11-15, SECONDARY,

LC50 - for Fish

> 5,6 mg/l/96h Pesce - Golden

## 12.2. Persistence and degradability

Petroleum distillates, charcoal, vegetable extracts: they are mixtures of paraffinic, naphthenic, diterpenic and aromatic hydrocarbons. Their behaviour on the environment depends on the concentration. In each case use, according to good working practices, avoiding disposal in the environment. As a rule, the product is poorly biodegradable.

#### TURPENTINE

Oil distillates, coal, plant extracts: they are blends of parafin hydrocarbons, naphthenes, diterpenes and aromatics. Their behaviour in the environment depends on their composition. In any case they should be used according to good working practice, avoiding discharge into the environment.

TURPENTINE

Solubility in water 0,1 - 100 mg/l

Rapidly degradable

1-METHOXY-2-PROPANOL

Solubility in water 1000 - 10000 mg/l

Rapidly degradable

## 12.3. Bioaccumulative potential

1-METHOXY-2-PROPANOL

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 8 / 10

## SECTION 12. Ecological information .../>>

Partition coefficient: n-octanol/water

< 1

#### 12.4. Mobility in soil

Information not available

## 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.

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

## 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 for 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

Product

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 9 / 10

## SECTION 15. Regulatory information .../>>

Point

#### 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 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

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

## **SECTION 16. Other information**

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

Flam. Liq. 3

Acute Tox. 4

Asp. Tox. 1

Eye Dam. 1

Eye Irrit. 2

Skin Irrit. 2

Skin Sens. 1

Flammable liquid, category 3

Acute toxicity, category 4

Aspiration hazard, category 1

Serious eye damage, category 1

Eye irritation, category 2

Skin irritation, category 2

Skin sensitization, category 1

STOT SE 3 Specific target organ toxicity - single exposure, category 3

Aquatic Chronic 2 Hazardous to the aquatic environment, chronic toxicity, category 2

Aquatic Chronic 3 Hazardous to the aquatic environment, chronic toxicity, category 3

H226Flammable liquid and vapour.H302Harmful if swallowed.H312Harmful in contact with skin.

H332 Harmful if inhaled.

**H304** May be fatal if swallowed and enters airways.

H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
 H336 May cause drowsiness or dizziness.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

## 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%

# GIARDINI DI GIARDINI ANGELO & C. SNC LEATHER DYE THINNER - MXC055P-G0000

Revision nr.2 Dated 07/06/2018 Printed on 07/06/2018 Page n. 10 / 10

## SECTION 16. Other information .../>>

- LD50: Lethal dose 50%- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

#### **GENERAL BIBLIOGRAPHY**

- 1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
- 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
- 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
- 4. Regulation (EU) 2015/830 of the European Parliament
- 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
- 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
- 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
- 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
- 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
- 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
- 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.

Changes to previous review: The following sections were modified: 02 / 03 / 13 / 14.