

## Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

#### 1.1. Product identifier

Code: **004**  
 Product name: **DS3 PERGEL**

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

Intended use: **Descaling detergent for ice makers.**

Identified Uses	Industrial	Professional	Consumer
Products for washing and cleaning	PROC: 10, 13, 19, 7, 8a, 8b. PC: 35.	-	-
Products for washing and cleaning	-	PROC: 10, 13, 19, 8a, 8b. PC: 35.	-

**Uses Advised Against**  
 None known

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

Name: **FIRMA SRL**  
 Full address: **VIA PER MODENA, 28**  
 District and Country: **42015 CORREGGIO (RE) IT**  
 Tel.: **0522 691880**  
 Fax: **0522 631277**  
 e-mail address of the competent person responsible for the Safety Data Sheet: **SDS@FIRMACHIMICA.IT**  
 Supplier: **FIRMA SRL**

#### 1.4. Emergency telephone number

For urgent inquiries refer to: **Tel. 0039 0522 691880 Office hours: 08.30 - 12.30, 14.00 - 18.00**  
**Tel. 0039 0522 036527 other times – laboratorio@firmachimica.it**

### 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 2020/878.

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:

Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.

#### 2.2. Label elements

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

Hazard pictograms:



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

Signal words: Danger

Hazard statements:  
**H314** Causes severe skin burns and eye damage.

Precautionary statements:  
**P280** Wear protective gloves / protective clothing / eye protection / face protection.  
**P302+P352** IN CASE OF CONTACT WITH SKIN: wash with plenty of water.  
**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P314** Get medical advice / attention if you feel unwell.

Contains: Phosphoric acid solution  
 Lactic acid

### Ingredients according to Regulation (EC) No. 648/2004

Less than 5%	non-ionic surfactants
30% and more	phosphates
dye	

### 2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
<b>Phosphoric acid solution</b>		
CAS	7664-38-2	<b>Met. Corr. 1 H290, Skin Corr. 1B H314, Eye Dam. 1 H318</b> <b>Skin Corr. 1B H314: <math>\geq</math> 25%, Skin Irrit. 2 H315: <math>\geq</math> 10%, Eye Dam. 1 H318: <math>\geq</math> 25%, Eye Irrit. 2 H319: <math>\geq</math> 10%</b>
EC	231-633-2	
INDEX	015-011-00-6	
REACH Reg.	01-2119485924-24	
<b>Lactic acid</b>		
CAS	79-33-4	<b>Eye Dam. 1 H318, Skin Irrit. 2 H315, EUH071</b>
EC	201-196-2	
INDEX		
REACH Reg.	01-2119474164-39-0000	

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

## SECTION 4. First aid measures

In case of doubt or the presence of a symptom, consult a doctor.

### 4.1. Description of first aid measures

**EYES:** Remove any contact lenses. Wash immediately with plenty of water for at least 30/60 minutes, opening the eyelids well. Consult a doctor.

**SKIN:** Remove contaminated clothing immediately. Take a shower immediately. Consult a doctor immediately.

**INGESTION:** DO NOT induce vomiting. Consult a doctor immediately. Never give anything by mouth to an unconscious person or with cramps.

**INHALATION:** Call a doctor immediately. Bring the subject to fresh air, away from the accident site. If breathing stops, give artificial respiration. Take appropriate precautions for the rescuer.

**SECTION 4. First aid measures ... / >>****4.2. Most important symptoms and effects, both acute and delayed**

It causes serious skin burns and serious eye injuries.

**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 MEDIA: The extinguishing media are the traditional ones: carbon dioxide, foam and chemical powder. For leaks and spills of the product that have not ignited, the nebulized water can be used to disperse the flammable vapors and to protect the people involved in stopping the loss. NON-SUITABLE EXTINGUISHING MEDIA: Do not use water jets. Water is not effective for extinguishing the fire but it can be used to cool closed containers exposed to the flame, preventing bursts and explosions.

**5.2. Special hazards arising from the substance or mixture**

HAZARDS DUE TO EXPOSURE IN THE EVENT OF FIRE: Avoid breathing combustion products: carbon oxides.

**5.3. Advice for firefighters**

GENERAL INFORMATION: Cool the containers with water jets to avoid decomposition of the product and the development of substances potentially hazardous for health. Wear, if necessary, complete fire protection equipment. Collect extinguishing water that must not be discharged into drains. Dispose of the contaminated water used for the fire extinguisher and the residue according to the regulations in force. EQUIPMENT: Not necessary for small fires. If necessary, wear fire-fighting clothing such as a fireproof suit (EN469), fireproof gloves (EN659) and boots for firefighters (HO A29 or A30) depending on the amount of product and any other materials involved in the fire.

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Stop the leak if there is no danger. Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of the skin, eyes and personal clothing. These indications are valid both for workers involved in the work and for emergency interventions.

**6.2. Environmental precautions**

Prevent the product from entering sewers, surface waters, water tables.

**6.3. Methods and material for containment and cleaning up**

Vacuum the leaked product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material. Ensure adequate ventilation of the area affected by the loss. Disposal of the contaminated material must be carried out in accordance with the provisions of point 13.

**6.4. Reference to other sections**

Any information regarding 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)**

See the exposure scenarios attached to this safety datasheet.

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory References:

EU OEL EU Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; 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 98/24/EC; Directive 91/322/EEC.

#### Phosphoric acid solution

##### Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3 ppm	mg/m3 ppm	
OEL	EU	1	2	

##### Predicted no-effect concentration - PNEC

Normal value of STP microorganisms 1000 mg/l

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

Route of exposure	Effects on consumers		Effects on workers					
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			0,1 mg/kg bw/d	0,1 mg/kg bw/d				
Inhalation			0,36 mg/m3	4,57 mg/m3	2 mg/m3		1 mg/m3	10,7 mg/m3
Skin					2 mg/m3		1 mg/m3	

#### Lactic acid

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	1,3 mg/l
Normal value of STP microorganisms	10 mg/l

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

Comply with the safety measures usually applied when handling chemical substances.

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.

When choosing risk management measures and operating conditions, consult the exposure scenarios attached.

Provide an emergency shower with face and eye wash station.

#### HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

#### SKIN PROTECTION

Wear category III professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

It is advisable to wear a hooded visor or protective visor combined with airtight glasses in case splashing is expected (ref. Standard EN166).

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 is not normally required. In any case, avoid inhalation of vapors, aerosols and gases. Use self-contained breathing apparatus or masks with filter type "A" during emergency operations. EN 141 gas / vapor filters. A respirator is not required under normal conditions of use and under the conditions for using the product. In case of insufficient ventilation and / or in the case of short or minimal exposure use the mask, wear an appropriate respirator (with filter type "A").

#### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

## SECTION 9. Physical and chemical properties

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

Properties	Value	Information
Appearance	liquid	
Colour	dark brown	
Odour	odourless	
Melting point / freezing point	~ 0 °C	
Initial boiling point	> 100 °C	
Flammability	not applicable	Reason for missing data: non contiene sostanze infiammabili
Lower explosive limit	Not applicable	Reason for missing data: miscela non esplosiva
Upper explosive limit	Not applicable	Reason for missing data: miscela non esplosiva
Flash point	> 61 °C	
Auto-ignition temperature	Not applicable	
Decomposition temperature	> 200 °C	Substance: Lactic acid
pH	1,5	Temperature: 20 °C
Kinematic viscosity	10-20 cSt	Temperature: 20 °C
Dynamic viscosity	10-20 cP	Temperature: 20 °C
Solubility	completamente solubile in acqua	
Partition coefficient: n-octanol/water	< 0	Method: log Kow Remark: valutazione di dati bibliografici
Vapour pressure	0,038 Pa	Temperature: 20 °C Substance: Lactic acid
Density and/or relative density	1,27 g/cm <sup>3</sup>	Temperature: 20 °C
Relative vapour density	Not available	
Particle characteristics	Not applicable	

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Information not available

#### 9.2.2. Other safety characteristics

Total solids (250°C / 482°F)	51,00 %	Temperature: 105 °C
VOC (Directive 2010/75/EU)	0,10 % - 1,27 g/litre	
Explosive properties	not explosive	
Oxidising properties	non ossidante	

## SECTION 10. Stability and reactivity

In the absence of data relating to the preparation, the following information refers to the substances that make up the mixture.

### 10.1. Reactivity

The product reacts violently with strongly alkaline products, developing heat.

Phosphoric acid solution

May form peroxides with: high temperatures.

In contact with reactive metals (mild steel, aluminum etc ...) hydrogen (explosive) may develop.

### 10.2. Chemical stability

The product is stable in the recommended storage and use conditions (see paragraph 7).

Phosphoric acid solution

Stable in normal conditions of use and storage.

Lactic acid

Stable in normal conditions of use and storage.

### 10.3. Possibility of hazardous reactions

In normal use and storage conditions dangerous reactions are not predictable.

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

Phosphoric acid solution  
May react violently with: strong alkalis.

#### 10.4. Conditions to avoid

None in particular. However, follow the usual precautions against chemical products and do not mix with preparations based on hypochlorites and chlorine derivatives in general.

Lactic acid  
Avoid exposure to: high temperatures.

#### 10.5. Incompatible materials

Do not store in metal containers: it reacts with zinc, copper and their alloys.

Phosphoric acid solution  
Ammonia. Reactive metals. Strong bases.

Lactic acid  
Keep away from: oxidising agents.

#### 10.6. Hazardous decomposition products

By contact with chlorine derivatives toxic gases are released.

Phosphoric acid solution  
Develops hydrogen on contact with: metals.  
Toxic phosphorus compounds.

### SECTION 11. Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

Phosphoric acid solution

LD50 (Oral):	> 2600 mg/kg bw 10% di una soluzione al 75.4% di acido fosforico per ratti femmina
LD50 (Dermal):	2 g/kg bw acido fosforico al 85% produce grave escara ma non porta alla morte nei conigli
LC50 (Inhalation vapours):	> 3846 mg/m3 Fumi di fosforo rosso per ratti maschi

Lactic acid

LD50 (Oral):	4936 mg/kg ratto maschio
LD50 (Dermal):	> 2000 mg/kg coniglio
LC50 (Inhalation vapours):	> 7,94 mg/l/4h ratto

SKIN CORROSION / IRRITATION

Corrosive for the skin  
Classification according to the experimental Ph value

**SECTION 11. Toxicological information ... / >>**SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available

Skin sensitization

Information not available

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

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**SECTION 11. Toxicological information** ... / >>**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

**SECTION 12. Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

**12.1. Toxicity**

Phosphoric acid solution	
LC50 - for Fish	> 75,1 mg/l/96h da sito ECHA
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Lactic acid	
LC50 - for Fish	> 130 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	130 mg/l/48h Daphnia Magna
EC50 - for Algae / Aquatic Plants	> 2,8 g/l/72h pseudokirchnerella subcapitata

**12.2. Persistence and degradability**

Phosphoric acid solution	
Solubility in water	> 1000 g/l da sito ECHA
Rapidly degradable	degrada in condizioni anaerobiche
Lactic acid	
Rapidly degradable	

**12.3. Bioaccumulative potential**

Lactic acid	
Partition coefficient: n-octanol/water	-0,62 Log Kow

**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  $\geq$  than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. 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 or ID number

ADR / RID, IMDG, IATA: 1805

### 14.2. UN proper shipping name

 ADR / RID: PHOSPHORIC ACID, SOLUTION  
 IMDG: PHOSPHORIC ACID, SOLUTION  
 IATA: PHOSPHORIC ACID, SOLUTION

### 14.3. Transport hazard class(es)

ADR / RID: Class: 8 Label: 8



IMDG: Class: 8 Label: 8



IATA: Class: 8 Label: 8



### 14.4. Packing group

ADR / RID, IMDG, IATA: III

### 14.5. Environmental hazards

 ADR / RID: NO  
 IMDG: NO  
 IATA: NO

### 14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 5 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 852
	Special provision:	A3, A803	

### 14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

## SECTION 15. Regulatory information

CODICE ISS (Azienda / preparato): 00466200359 / 004

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

Seveso Category - Directive 2012/18/EU: None

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

<u>Product</u>	
Point	3
<u>Contained substance</u>	
Point	75

 Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors  
 Not applicable

**SECTION 15. Regulatory information ... / >>**Substances in Candidate List (Art. 59 REACH)

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

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 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.

Regulation (EC) No. 648/2004

Ingredients according to Regulation (EC) No. 648/2004

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

**15.2. Chemical safety assessment**

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

Phosphoric acid solution

Lactic acid

**SECTION 16. Other information**

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

<b>Met. Corr. 1</b>	Substance or mixture corrosive to metals, category 1
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>H290</b>	May be corrosive to metals.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.
<b>EUH071</b>	Corrosive to the respiratory tract.

Use descriptor system:

<b>PC 35</b>	Washing and cleaning products
<b>PROC 10</b>	Roller application or brushing
<b>PROC 13</b>	Treatment of articles by dipping and pouring
<b>PROC 19</b>	Manual activities involving hand contact
<b>PROC 7</b>	Industrial spraying
<b>PROC 8a</b>	Transfer of substance or mixture (charging and discharging) at non- dedicated facilities
<b>PROC 8b</b>	Transfer of substance or mixture (charging and discharging) at dedicated facilities

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level

**SECTION 16. Other information ... / >>**

- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term 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) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) 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)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII 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.

**CALCULATION METHODS FOR CLASSIFICATION**

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

**Changes to previous review:**

The following sections were modified:

01 / 02 / 03 / 07 / 08 / 09 / 10 / 11 / 12 / 15 / 16.