



SAFETY DATA SHEET

FREE HAND BLOND HAIR

Revision N.: 3. Dated: 03/07/2017. Printed on: 03/07/2017
This safety data sheet replaces all previous versions

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Code: 14264
Product name: DECO BALAYAGE PLUS / FREE HAND BLOND HAIR

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use: Bleaching powder for hair (for cosmetic use)

1.3. Details of the supplier of the safety data sheet

HAIR BIOLOGIC SYSTEM SRL - VIA PADRE ANTONIO CASAMASSA, 87 - 00119 ROMA
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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Oxidising solid, category 3	H272	May intensify fire; oxidiser.
Acute toxicity, category 4	H302	Harmful if swallowed.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

2.2. Label elements

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

Hazard pictograms:



Signal words: Danger

Hazard statements:

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from clothing and other combustible materials.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P280 Wear protective gloves / eye protection / face protection.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER / doctor / ...
P370+P378 In case of fire: use ... to extinguish.

Contains: DISODIUM METASILICATE
DIPOTASSIUM PEROXODISULPHATE

AMMONIUM PEROXYDISULPHATE

SODIUM PHOSPHATE TRIBASIC ANHYDROUS

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%.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

Information not relevant.

3.2. Mixtures

Contains:

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

Identification	x = Conc. %	Classification 1272/2008 (CLP)
DIPOTASSIUM PEROXODISULPHATE CAS 7727-21-1	25 ≤ x < 50	Ox. Sol. 3 H272, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
EC 231-781-8 INDEX 016-061-00-1 Reg. no. 01-2119495676-19-0000 SODIUM PHOSPHATE TRIBASIC ANHYDROUS CAS 10101-89-0	5 ≤ x < 10	Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC 231-509-8 INDEX - DISODIUM METASILICATE CAS 6834-92-0	1 ≤ x < 5	Met. Corr. 1 H290, Skin Corr. 1B H314, STOT SE 3 H335
EC 229-912-9 INDEX 014-010-00-8 Reg. no. 01-2119449811-37-xxxx AMMONIUM PEROXYDISULPHATE CAS 7727-54-0	1 ≤ x < 5	Ox. Sol. 3 H272, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
EC 231-786-5 INDEX 016-060-00-6 Reg. no. 01-2119495973-19-0000		

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.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide and 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

If large quantities of the product are involved in a fire, they can make it considerably worse. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

In the case of fire, use jets of water to cool the containers to prevent the risk of explosions (product decomposition and excess pressure) and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Remove all containers containing the product from the fire, if it is safe to do so.

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).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

If there are no contraindications, spray powder with water to prevent the formation of dust.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Collect the leaked product and place it in containers for recovery or disposal. If the product is flammable, use explosion-proof equipment. If there are no contraindications, use jets of water to eliminate product residues.

Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. 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

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

7.2. Conditions for safe storage, including any incompatibilities

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

Store in cool (below 30 °C) and dry areas. Avoid contamination and avoid the presence of reducing agents like lotions and permanent waves. Discard any unused mixture with developer or bleaching lotions, since the container may break. AVOID humid organic material as paper towel, wood, clothes, etc. which could induce spontaneous combustion. Protect from heat and sunlight; store in places far from rain and humidity; never store outdoors. Store separately from other dangerous and incompatible substances.

7.3. Specific end use(s)

Information not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Regulatory References:

ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
	TLV-ACGIH	ACGIH 2016

DIPOTASSIUM PEROXODISULPHATE

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0763	mg/l
Normal value in marine water	0,011	mg/l
Normal value for fresh water sediment	0,275	mg/kg
Normal value for marine water sediment	0,0396	mg/kg
Normal value for water, intermittent release	0,763	mg/l
Normal value of STP microorganisms	3,6	mg/l
Normal value for the terrestrial compartment	0,015	mg/kg

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		30 mg/kg bw/d		9,1 mg/kg bw/d				
Inhalation	295 mg/m3	295 mg/m3	1,03 mg/m3	1,03 mg/m3		590 mg/m3	2,06 mg/m3	2,06 mg/m3
Skin	1,124 mg/cm2	200 mg/kg bw/d	0,051 mg/cm2	9,1 mg/kg bw/d	2,248 mg/cm2	400 mg/kg bw/d	0,102 mg/cm2	18,2 mg/kg bw/d

AMMONIUM PEROXYDISULPHATE

Threshold Limit Value

Type	Country	TWA/8h mg/m3	ppm	STEL/15min mg/m3	ppm
VLA	ESP	0,1			
TLV-ACGIH		0,1			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0763	mg/l
Normal value in marine water	0,011	mg/l
Normal value for fresh water sediment	0,275	mg/kg
Normal value for marine water sediment	0,0396	mg/kg
Normal value for water, intermittent release	0,763	mg/l
Normal value of STP microorganisms	3,6	mg/l
Normal value for the terrestrial compartment	0,015	mg/kg

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		30 mg/kg bw/d		9,1 mg/kg bw/d				
Inhalation	295 mg/m3	295 mg/m3	1,03 mg/m3	1,03 mg/m3		590 mg/m3	2,06 mg/m3	2,06 mg/m3
Skin	1,124 mg/cm2	200 mg/kg bw/d	0,051 mg/cm2	9,1 mg/kg bw/d	2,248 mg/cm2	400 mg/kg bw/d	0,102 mg/cm2	18,2 mg/kg bw/d

DISODIUM METASILICATE

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on worker			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,74 mg/kg bw/d				
Inhalation				1,55 mg/m3		6,22		6,22 mg/m3
Skin				0,74 mg/kg bw/d				1,49 mg/kg bw/d

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.

During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate not otherwise classified (PNOC respirable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment.

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

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 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.

EYE PROTECTION

Wear a hood visor or protective visor combined with airtight goggles (see standard EN 166).

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

RESPIRATORY PROTECTION

Use a type P filtering facemask, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment (see standard EN 149).

ENVIRONMENTAL EXPOSURE CONTROLS

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Powder
Clour	Offwhite
Odour	Characteristic
Odour threshold	Not available
pH	9,6-10,6
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	Not available
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
Relative density	Not available
Solubility	Partially soluble
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

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10. STABILITY AND REACTIVITY

10.1. Reactivity

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

DISODIUM METASILICATE

The aqueous solutions act as: strong bases.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The powders are potentially explosive when mixed with air.

DISODIUM METASILICATE

May react dangerously with: fluorine, lithium.

10.4. Conditions to avoid

Avoid environmental dust build-up.

10.5. Incompatible materials

DISODIUM METASILICATE

The aqueous solution is incompatible with: acids, organic anhydrides, acrilates, alcohols, aldehydes, alkyl oxides, cre-
soles, caprolactam, epichlorohydrin, ethylene dichloride, glycols, isocyanates, ketones, nitrates, phenoles, vinyl acetate.

10.6. Hazardous decomposition products

Information not available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not availableInformation not available.

Information on likely routes of exposure

Information not availableInformation not available.

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

Information not availableInformation not available.

Interactive effects

Information not availableInformation not available.

ACUTE TOXICITY

LC50 (Inhalation - vapours) of the mixture:LC50 (Inhalation - vapours) of the mixture:

Not classified (no significant component)

LC50 (Inhalation - mists / powders) of the mixture:LC50 (Inhalation - mists / powders) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:LD50 (Oral) of the mixture:

1843 mg/kg

LD50 (Dermal) of the mixture:LD50 (Dermal) of the mixture:

Not classified (no significant component)

SODIUM PHOSPHATE TRIBASIC ANHYDROUS

> 2000 mg/kg

LD50 (Oral)

> 2000 mg/kg

LD50 (Dermal)

> 0,83 mg/l

LC50 (Inhalation)

DIPOTASSIUM PEROXODISULPHATE

1130 mg/kg (ratto)

LD50 (Oral)

> 10000 mg/kg (coniglio)

LD50 (Dermal)

> 42,9 mg/l (ratto)

LC50 (Inhalation)

DISODIUM METASILICATE

1152 mg/kg bw (Ratto)

LD50 (Oral)

> 5000 mg/kg bw (Ratto)

LD50 (Dermal)

> 2,06 g/m³ (Ratto)

LC50 (Inhalation)

AMMONIUM PEROXYDISULPHATE

272 mg/kg Rat

LD50 (Oral)

> 2000 mg/kg Rat

LD50 (Dermal)

> 5,1 mg/l/4h Rat

LC50 (Inhalation)

SKIN CORROSION / IRRITATION

Causes skin irritationCauses skin irritation.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damageCauses serious eye damage.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skinSensitising for the skin

Sensitising for the respiratory systemSensitising for the respiratory system.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard classDoes not meet the classification criteria for this hazard class.

CARCINOGENICITY

Does not meet the classification criteria for this hazard classDoes not meet the classification criteria for this hazard class.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard classDoes not meet the classification criteria for this hazard class.

STOT - SINGLE EXPOSURE

May cause respiratory irritationMay cause respiratory irritation.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard classDoes not meet the classification criteria for this hazard class.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard classDoes not meet the classification criteria for this hazard class.

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

SODIUM PHOSPHATE

TRIBASIC ANHYDROUS

LC50 - for Fish	> 100 mg/l/96h (Oncorhynchus mykiss -Trota iridea) Linee Guida 203 per il Test dell'OECD
EC50 - for Crustacea	> 100 mg/l/48h (Daphnia magna -Pulce d'acqua grande) OECD TG 202
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h (Desmodesmus subspicatus - alga verde) OECD TG 201

DIPOTASSIUM PEROXODISULPHATE

LC50 - for Fish	107,6 mg/l/96h Scophthalmus maximus
EC50 - for Crustacea	120 mg/l/48h (daphnia)
EC50 - for Algae / Aquatic Plants	320 mg/l/72h Phaeodactylum

DISODIUM METASILICATE

LC50 - for Fish	1108 mg/l/96h (Brachydanio rerio)
EC50 - for Crustacea	1700 mg/l/48h (Daphnia magna)
EC50 - for Algae / Aquatic Plants	207 mg/l/72h (Schedesmus subspicatus)

AMMONIUM PEROXYDISULPHATE

LC50 - for Fish	107,6 mg/l/96h Scophthalmus maximus
EC50 - for Crustacea	120 mg/l/48h (Daphnia magna)
EC50 - for Algae / Aquatic Plants	320 mg/l/72h Phaeodactylum
EC10 for Algae / Aquatic Plants	36 mg/l/72h Pseudomonas putida

12.2. Persistence and degradability

Dipotassium
peroxodisulphate
Rapidly biodegradable

DISODIUM METASILICATE

Solubility in water 210000 mg/l
Biodegradability: Information not available

AMMONIUM PEROXYDISULPHATE Solubility in water > 10000 mg/l
Biodegradability: Information not available

12.3. Bioaccumulative potential

Information not available.

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.

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.

14. TRANSPORT INFORMATION

14.1. UN number

ADR / RID, IMDG, 1479
IATA:

14.2. UN proper shipping name

ADR / RID: OXIDIZING
SOLID, N.O.S.
MIXTURE
IMDG: OXIDIZING
SOLID, N.O.S.
MIXTURE
IATA: OXIDIZING
SOLID, N.O.S.
MIXTURE

14.3. Transport hazard class(es)

ADR / RID:	Class: 5.1	Label: 5.1
IMDG:	Class: 5.1	Label: 5.1
IATA:	Class: 5.1	Label: 5.1



14.4. Packing group

ADR / RID, IMDG, III
IATA:

14.5. Environmental hazards

ADR / RID: NO
IMDG: NO
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 50	Limited Quantities: 5 kg	Tunnel restriction code: (E)
	Special Provision: -		
IMDG:	EMS: F-A, S-Q	Limited Quantities: 5 kg	
IATA:	Cargo:	Maximum quantity: 100 Kg	Packaging instructions: 563
	Pass.:	Maximum quantity: 25 Kg	Packaging instructions: 559
	Special Instructions:	A3	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant.

15. REGULATORY INFORMATION

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

Seveso Category - Directive 2012/18/EC: P8

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

Contained substance

Point	65	AMMONIUM PEROXYDISULPHATE Reg. no.: 01-2119495973-19-0000
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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.

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.

16. OTHER INFORMATION

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

Ox. Sol. 3	Oxidising solid, category 3
Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EU) 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
- 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 / 04 / 08 / 11 / 12 / 15.