



250 ml  
1000 ml

## SAFETY DATA SHEET

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

### INTENSIVE SHAMPOO ENERGIZZANTE

**Revision:** nr. 1 **Date:** 24/02/2023 First compilation  
This safety data sheet replaces all previous versions.

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

##### 1.1. Product identifier

Code: PL3220  
Product name: INTENSIVE - SHAMPOO ENERGIZZANTE

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

**Intended use** Cosmetic preparation - Shampoo plus conditioner

##### Identified Uses

use the product as a hair cleanser

##### Industrial

-

##### Professional

x

##### Consumer

x

##### Uses Advised Against

Do not use anything other than the one indicated.

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

Name: HAIR BIOLOGIC SYSTEM srl  
Full address: Via Padre Antonio Casamassa, 87  
District and Country: 00119 ROMA  
ITA  
Tel. 06.5652045/6  
Fax 06.5052150  
info@hbssrl.com

##### 1.4. Emergency telephone number

For urgent inquiries refer to: Matteo Zanutti Russo  
c/o Angel Consulting sas  
Piazza Duca degli Abruzzi 5/4  
16167 Genova  
tel.3405180274  
email: info@angelconsulting.it

Centro antiveleni di Milano (CAV Ospedale Niguarda Ca Granda) H24 02-66101029  
Centro antiveleni di Pavia (CAV IRCCS Fondazione Maugeri) H24 0382-24444  
Centro antiveleni di Bergamo (CAV Ospedali Riuniti) H24 800-883300  
Centro antiveleni di Firenze (CAV Ospedale Careggi) H24 055-7947819  
Centro antiveleni di Roma (CAV Policlinico Gemelli ) H24 063054343  
Centro antiveleni di Roma (CAV Policlinico Umberto I ) H24 0649978000  
Centro antiveleni di Napoli ( CAV Ospedale Cardarelli) H24 0817472870  
Centro antiveleni di Catania (CAV Ospedale Garibaldi) H24 800-410989  
Centro antiveleni di Genova (CAV Ospedale San Martino) H24 010352808  
Centro antiveleni di La Spezia (CAV Ospedale Civile Sant' Andrea) H24 0187533297-0187533376  
Centro antiveleni di Lecce (CAV Presidio Ospedaliero n° 1) H24 0832351105  
Centro antiveleni di Pordenone (CAV Ospedale Civile) H24 0434550301  
Centro antiveleni di Reggio Calabria (CAV Ospedali Riuniti) H24 0965811624  
Centro antiveleni di Chieti (CAV Ospedale Santissima Annunziata) H24 0871551219  
Centro antiveleni di Ancona (CAV Centro Universitario Ospedaliero di Farmacovigilanza)  
dalle 7.30 alle 13.30 072181028

## 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:

Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

### 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:

<b>H318</b>	Causes serious eye damage.
<b>H315</b>	Causes skin irritation.
<b>H412</b>	Harmful to aquatic life with long lasting effects.
<b>EUH208</b>	Contains: PARFUM (FRAGRANCE) May produce an allergic reaction.

Precautionary statements:

<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P280</b>	Wear protective gloves / eye protection / face protection.
<b>P310</b>	Immediately call a POISON CENTER / doctor / ...
<b>P321</b>	Specific treatment (see ... on this label).
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>P264</b>	Wash ... thoroughly after handling.
<b>P273</b>	Avoid release to the environment.

**Contains:** SODIUM LAURETH SULFATE  
COCAMIDOPROPYL BETAINE  
COCAMIDE DEA

### 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%.

## 3. Composition/information on ingredients

### 3.1. Substances

Information not relevant

### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
SODIUM LAURETH SULFATE		
INDEX -	$5 \leq x < 10$	Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Chronic 3 H412
EC 500-234-8		
CAS 68891-38-3		
REACH Reg. 01-2119488639-16-0005		
COCAMIDOPROPYL BETAINE		
INDEX -	$1 \leq x < 5$	Eye Dam. 1 H318, Aquatic Chronic 3 H412
EC 263-058-8		
CAS 61789-40-0		
REACH Reg. 01-2119489410-39-0001		

COCAMIDE DEA INDEX -	$1 \leq x < 5$	Acute Tox. 4 H302, STOT RE 2 H373, Eye Dam. 1 H318, Skin Irrit. 2 H315, Aquatic Chronic 2 H411 STA Oral: 500 mg/kg
EC 931-329-6 CAS 68155-07-7 REACH Reg. 01-2119490100-53-0001		
PARFUM (FRAGRANCE) INDEX	$0,1 \leq x < 1$	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC CAS -		

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

#### 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

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).

#### 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.

##### 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. 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.

## 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.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Regulatory References:

TLV-ACGIH

ACGIH 2022

#### SODIUM LAURETH SULFATE

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

Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,024	mg/l
Normal value for fresh water sediment	5,45	mg/kg
Normal value for marine water sediment	0,545	mg/kg
Normal value of STP microorganisms	10000	mg/l
Normal value for the terrestrial compartment	0,946	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				15 mg/kg				
Inhalation				52 mg/m3				175 mg/m3
Skin				1650 mg/kg				2750 mg/kg

#### COCAMIDOPROPYL BETAINE

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

Normal value in fresh water	0,013	mg/l
Normal value in marine water	0,001	mg/l
Normal value for fresh water sediment	1	mg/kg
Normal value for marine water sediment	0,1	mg/kg
Normal value of STP microorganisms	3000	mg/l
Normal value for the terrestrial compartment	0,8	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	VND	VND	VND	7,5 mg/kg bw/d	VND	VND	VND	VND
Inhalation	VND	VND	VND	VND	VND	VND	VND	44 mg/m3
Skin	VND	VND	VND	7,5 mg/kg bw/d	VND	VND	VND	12,5 mg/kg bw7d

#### COCAMIDE DEA

##### Threshold Limit Value

Type	Country	TWA/8h mg/m3	ppm	STEL/15min mg/m3	ppm	Remarks / Observations
TLV-ACGIH		1				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;

LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 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.

The following should be considered when choosing work glove material (see standard EN 374): 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 Regulation 2016/425 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.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

## 9. Physical and chemical properties

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

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	5,82	
Kinematic viscosity	not available	
Dynamic viscosity	5230 mPa.s #SPINDLE LV-3 12rpm	
Solubility	soluble in water	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	1,000 - 1,060 kg/l	
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

VOC (Directive 2010/75/EU)	0
VOC (volatile carbon)	0

## 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.

### 10.3. Possibility of hazardous reactions

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

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Information not available.

### 10.6. Hazardous decomposition products

Information not available.

## 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

### 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: >2000 mg/kg

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

#### SODIUM LAURETH SULFATE

LD50 (Dermal): > 4000 mg/kg (OECD 402)

LD50 (Oral): > 8000 mg/kg (OECD 401)

#### GLYCERIN

LD50 (Oral): 18300 mg/kg ratto

#### UREA

LD50 (Oral): 14300 mg/kg RATTO

#### COCAMIDOPROPYL BETAINE

LD50 (Dermal): > 2000 mg/kg

LD50 (Oral): > 1960 mg/kg

#### PROPYLENE GLYCOL

LD50 (Dermal): > 2000 mg/kg RATTO

LD50 (Oral): 22000 mg/kg RATTO

#### COCAMIDE DEA

LD50 (Dermal): > 2000 mg/kg bw

LD50 (Oral): > 5000 mg/kg bw (OECD 401)

STA (Oral): 500 mg/kg estimate from table 3.1.2 of Annex I of the CLP  
(figure used for calculation of the acute toxicity estimate of the mixture)

#### SKIN CORROSION / IRRITATION

Causes skin irritation.

#### SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage.

#### RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.

Contains:

PARFUM (FRAGRANCE)

#### 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.

#### **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.

### **12. Ecological information**

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

#### **12.1. Toxicity**

##### **COCAMIDOPROPYL BETAINE**

LC50 - for Fish	15 mg/l/96h (OECD 203)
EC50 - for Crustacea	1,1 mg/l/48h (OECD 202)
EC10 for Algae / Aquatic Plants	4,66 mg/l/72h (OECD 201)
Chronic NOEC for Fish	0,135 mg a.i./100d (OECD 210)
Chronic NOEC for Crustacea	0,32 mg a.i./21d (OECD 211)

##### **GLYCERIN**

LC50 - for Fish	54 g/l oncorhynchus mykiss
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##### **COCAMIDE DEA**

LC50 - for Fish	> 2 mg/l/96h (OECD 203)
EC50 - for Crustacea	32 mg/l/48h (OECD 202)
EC50 - for Algae / Aquatic Plants	> 21 mg/l/72h (OECD 201)
Chronic NOEC for Fish	32 mg/l (OECD 204)
Chronic NOEC for Crustacea	7 mg/l 21d (OECD 2011) ù
Chronic NOEC for Algae / Aquatic Plants	3 mg/l 72h (OECD 201)

##### **SODIUM LAURETH SULFATE**

LC50 - for Fish	7,1 mg/l/96h
EC50 - for Crustacea	7,7 mg/l/48h
EC50 - for Algae / Aquatic Plants	1,2 mg/l/72h
Chronic NOEC for Fish	> 0,1 mg/l
Chronic NOEC for Crustacea	0,27 mg/l
Chronic NOEC for Algae / Aquatic Plants	0,93 mg/l

##### **PROPYLENE GLYCOL**

LC50 - for Fish	40163 mg/l/96h ONCORHYNCHUS MYKISS
EC50 - for Crustacea	18340 mg/l/48h CERIODAPHNIA DUBIA

##### **UREA**

EC50 - for Crustacea	> 10000 mg/l/48h DAPHNIA
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## 12.2. Persistence and degradability

COCAMIDOPROPYL BETAINE

Rapidly degradable

COCAMIDE DEA

Solubility in water 10-1000 mg/l

Rapidly degradable SODIUM LAURETH SULFATE

Rapidly degradable PROPYLENE GLYCOL

Rapidly degradable

UREA

Degradability: 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  $\geq$  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.

# 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.

# 14. Transportation 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 or ID 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. Maritime transport in bulk according to IMO instruments

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/EU: None

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

Product

Point 3

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Not applicable.

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.

### 15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## 16. Other information

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

Acute Tox. 4	Acute toxicity, category 4
STOT RE 2 S	specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation. H315 Causes skin irritation.
H317	May cause an allergic skin reaction.
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
- 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
- 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)
22. Delegated Regulation (UE) 2022/692 (XVIII 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.