

VINYL ADHESIVE RING LCV1470

PRODUCT DESCRIPTION

Synthetic water-based dispersion adhesive characterised by excellent bonding performance.

APPLICATIONS

Paper converting

Thanks to its fast setting time and viscosity, the adhesive is particularly suitable for use on high-speed folder-gluer machines equipped with roller application systems, for the forming and closing of coated, varnished and laminated solid board cartons with a corona treatment value of at least 40 dynes. Due to the wide variety of substrates available, preliminary bonding trials should always be carried out before production.

TECHNICAL DATA

PARAMETER

Appearance

Brookfield viscosity (RVT)

Solid content

PH

METHOD

Visual

Internal D1

Internal D2

Internal D5

VALUE

White fluid liquid

5,500– 6,000 mPas

52 - 56%

5 - 6

* Values are indicative only

APPLICATION INSTRUCTIONS

The adhesive is designed for use on high-speed automatic folder-gluer machines equipped with roller application systems. The temperature of both the substrates and the working environment should not be lower than +15°C. Lower temperatures may adversely affect the adhesive's application performance. The moisture content of the substrate can influence bonding performance. For best results, the substrate should have a moisture content between 8% and 10%. Lower moisture levels may cause excessive absorption of the adhesive, while higher moisture levels may increase setting time. At the end of each production cycle, clean the application equipment before the adhesive dries. Stir thoroughly before use, particularly after prolonged storage.

STORAGE

The product has a shelf life of 12 months when stored in its original, tightly closed containers at temperatures between +10°C and +30°C.

PACKAGING

Available in 30 Kg buckets and 1,000 kg IBC containers.

FOOD CONTACT COMPLIANCE

All components of this product comply with the requirements of U.S. FDA 21 CFR 175.105 for adhesives intended for indirect food contact.



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry

SAFETY DATA SHEET LCV1470

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

1.1 Product identifier

Ring PVA Glue LCV1470

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

Water-based dispersion adhesive. Industrial use.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008 (CLP).

However, as it contains hazardous substances at concentrations requiring disclosure in Section 3, a Safety Data Sheet complying with Regulation (EU) 2020/878 is provided.

Classification and hazard statements: None.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 (CLP), as amended.

Hazard pictograms: None

Signal word: None

Hazard statements

EUH210 Safety data sheet available on request.

EUH208 Contains: Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)
1,2-benzisothiazol-3(2H)-one

May produce an allergic reaction.

Precautionary statements: None.

2.3 Other hazards

Based on the available data, the product does not contain PBT or vPvB substances at concentrations of 0.1% or greater.

The product does not contain substances with endocrine-disrupting properties at concentrations of 0.1% or greater.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Contains

Identification x = Conc. %

1,2-benzisothiazol-3(2H)-one

INDEX 613-088-00-6 0 < x < 0,025

CE 220-120-9

CAS 2634-33-5

Classification 1272/2008 (CLP)

Acute Tox. 2 H330, Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1
Skin Sens. 1 H317: $\geq 0,05\%$
LD50 Orale: 490 mg/kg, STA Inalazione nebbie/polveri: 0,051 mg/l

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)

INDEX 613-167-00-5 0 < x < 0,0015

Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=1, EUH071,
Classification note according to Annex VI of the CLP Regulation:
Note B

CE

Skin Corr. 1C H314: $\geq 0,6\%$, Skin Irrit. 2 H315: $\geq 0,06\%$
- < 0,6%, Skin Sens. 1A H317: $\geq 0,0015\%$



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry

CAS 55965-84-9

LD50 Oral: 100 mg/kg, STA Dermal: 50,001 mg/kg, STA
ATE (Inhalation – dusts/mists): 0.051 mg/L

The full text of the hazard statements (H-statements) is provided in Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact

Remove contact lenses, if present and easy to do. Rinse immediately with plenty of water for at least 15 minutes, keeping the eyelids well open. Seek immediate medical attention.

Skin contact

Remove contaminated clothing. Wash immediately and thoroughly with running water (and soap, if available). Seek medical advice. Avoid further contact with contaminated clothing.

Ingestion

Do not induce vomiting unless expressly instructed to do so by a physician. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Inhalation

Remove the affected person to fresh air, away from the site of exposure. Seek immediate medical attention.

Protection of first aid personnel

It is good practice for first aid personnel assisting a person exposed to a chemical substance or mixture to wear appropriate personal protective equipment. The type of protection required depends on the hazards of the substance or mixture, the route of exposure and the extent of contamination. In the absence of more specific instructions, disposable gloves are recommended where contact with bodily fluids is possible. For suitable personal protective equipment, refer to Section 8.

4.2 Most important symptoms and effects, both acute and delayed

No cases of health damage attributable to this product are known.

Delayed effects: Based on the information currently available, no delayed effects following exposure to this product are known.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether immediate or delayed, seek medical advice.

Means to be available at the workplace for specific and immediate treatment

Running water for skin and eye washing.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

SUITABLE: Suitable extinguishing media include carbon dioxide, foam, dry chemical powder and water spray.

UNSUITABLE: None in particular

5.2 Special hazards arising from the substance or mixture

Hazards arising from exposure in the event of fire

Avoid inhalation of combustion products.

5.3 Advice for firefighters

General information

Cool containers exposed to fire with water spray to prevent product decomposition and the formation of substances potentially hazardous to health. Always wear full firefighting protective equipment. Collect contaminated fire-fighting water separately. It must not be discharged into drains. Dispose of contaminated fire-fighting water and fire residues in accordance with the applicable regulations.

Protective equipment for firefighters

Normal firefighting clothing, such as an open-circuit self-contained breathing apparatus (SCBA) compliant with EN 137, full protective clothing compliant with EN 469, firefighter protective gloves compliant with EN 659, and firefighter boots compliant with HO A29 or A30.



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Stop the leak if it can be done safely. Wear appropriate protective equipment, including the personal protective equipment specified in Section 8, to prevent contamination of the skin, eyes and clothing. These instructions apply to both operating personnel and emergency responders.

6.2 Environmental precautions

Prevent the product from entering drains, surface waters and groundwater.

6.3 Methods and material for containment and cleaning up

Collect the spilled product in a suitable container. Check the compatibility of the collection container with the product as described in Section 10. Absorb any remaining material with an inert absorbent. Ensure adequate ventilation of the contaminated area.

Dispose of contaminated material in accordance with Section 13.

6.4 Reference to other sections

For information on personal protective equipment and disposal, see Sections 8 and 13.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle the product only after reading all sections of this Safety Data Sheet. Avoid release into the environment. Do not eat, drink or smoke while handling the product. Remove contaminated clothing and personal protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Store only in the original container. Keep containers tightly closed in a well-ventilated place, protected from direct sunlight. Store away from incompatible materials. Refer to Section 10 for further information.

7.3 Specific end use(s)

No information available.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Reaction mass of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)

Predicted No Effect Concentration (PNEC)

Freshwater

0.0039 mg/l

Marine water

0.0039 mg/l

Freshwater sediment

0.027 mg/kg

Marine sediment

0.027 mg/kg

Intermittent release to water

0.0039 mg/l

Soil

0.01 mg/kg



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

Health – Derived No Effect Level (DNEL) / Derived Minimal Effect Level (DMEL)

Route of exposure	Effect on consumer				Effect on workers			
	Local Acute	Systemic Acute	Local Chronic	Systemic Chronic	Local Acute	Systemic Acute	Local Chronic	Systemic Chronic
Oral		0,11 mg/kg bw/d		0,09 mg/kg bw/d				
Inhalation	0,04	NPI		NPI	0,04	NPI	0,02	NPI
Dermal	mg/m3 VND	NPI	0,02 mg/m3	NPI	mg/m3 VND	NPI	mg/m3 NPI	NPI
1,2-benzisothiazol-3(2H)- one								
Predicted No Effect Concentration (PNEC)								
Freshwater								4,03 mg/l
Marine water								403 mg/l
Freshwater sediment								49,9 mg/kg
Marine sediment								4,99 mg/kg
Intermittent release to water								1,1 mg/l

Health – Derived No Effect Level (DNEL) / Derived Minimal Effect Level (DMEL)

Route of exposure	Effect on consumer				Effect on workers			
	Local Acute	Systemic Acute	Local Chronic	Systemic Chronic	Local Acute	Systemic Acute	Local Chronic	Systemic Chronic
Oral		NPI						
Inhalation	NPI	NPI	NPI	1,2 mg/m3	NPI	NPI	NPI	6,81 mg/m3
Dermal		NPI		345 µg/kg bw/d		NPI		966 µg/kg bw/d

VND = Hazard identified but no DNEL/PNEC available. DNEL/PNEC disponibile; NEA = No exposure anticipated; NPI = No hazard identified. ;LOW = Low hazard; MED = Medium hazard. HIGH = High hazard.

8.2 Exposure Controls

As the use of appropriate engineering controls should always take priority over personal protective equipment, ensure adequate workplace ventilation through effective local exhaust ventilation.

Hand protection

Protect hands with Category III protective gloves. When selecting glove material (in accordance with EN 374), consideration should be given to compatibility, degradation and breakthrough time. For mixtures, the chemical resistance of protective gloves should be verified before use, as it cannot be predicted in advance. Glove service life depends on the duration and conditions of use.

Skin protection

Wear long-sleeved protective work clothing and Category I safety footwear for professional use in accordance with Regulation (EU) 2016/425 and EN ISO 20344. Wash thoroughly with soap and water after removing protective clothing.

Eye protection

The use of tightly fitting safety goggles complying with EN ISO 16321 is recommended.

Respiratory protection

Respiratory protective equipment is required if the engineering controls adopted are not sufficient to keep worker exposure below the applicable exposure limits. It is recommended to use a respirator fitted with a Type A filter. The appropriate filter class (1, 2 or 3) should be selected according to the expected exposure concentration (see EN 14387). If the substance is odourless, or if its odour threshold exceeds the relevant TLV-TWA, and in emergency situations, use an open-circuit self-contained breathing apparatus (SCBA) compliant with EN 137, or an air-line respirator compliant with EN 138. For the correct selection of respiratory protective equipment, refer to EN 529.

Environmental exposure controls

Emissions generated by manufacturing processes, including those from ventilation systems, should be controlled to ensure compliance with applicable environmental protection legislation.



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state: Liquid

Colour: White

Odour: Slight

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: Not available

Kinematic viscosity: Not available

Solubility: Not available

Partition coefficient (n-octanol/water): Not available

Vapour pressure: Not available

Density and/or relative density: Not available

Relative vapour density: Not available

Particle characteristics: Not applicable

9.2 Other information

Information with regard to physical hazard classes

No information available

other safety characteristics: no information available

10 STABILITY AND REACTIVITY

10.1 Reactivity

No particular hazards associated with reactions with other substances under normal conditions of use.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

No hazardous reactions are expected under normal conditions of use and storage.

10.4 Conditions to avoid

None in particular. However, the usual precautions for handling chemical products should be observed.

10.5 Incompatible materials

No information available

10.6 Hazardous decomposition products

No information available

11 TOXICOLOGICAL INFORMATION

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



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry

Metabolism, toxicokinetics, mechanism of action and other information
No information available

Information on likely routes of exposure
No information available

Delayed and immediate effects as well as chronic effects from short- and long-term exposure
No information available

Interactive effects
No information available

Acute toxicity:
ATE (Inhalation) of the mixture: Not classified (no relevant components)
ATE (Oral) of the mixture: Not classified (no relevant components)
ATE (Dermal) of the mixture: Not classified (no relevant components)

1,2-benzisothiazol-3(2H)- one
LD50 (Dermal): 2,000 mg/kg
LD50 (Oral): 490 mg/m3

Reaction mass of Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)
LD50 (Dermal): 300 mg/kg Method: converted to an acute toxicity point estimate.
STA (Dermal): 50,001 mg/kg Estimated from Table 3.1.2 of Annex I to the CLP Regulation (value used for calculating the acute toxicity estimate of the mixture).
LD50 (Oral): 100 mg/kg Method: converted to an acute toxicity point estimate.
LC50 (Inhalation dusts/mists): 1,23 mg/m3

Skin corrosion / irritation
Does not meet the classification criteria for this hazard class.

Serious eye damage / eye irritation
Does not meet the classification criteria for this hazard class.

Respiratory or skin sensitisation
May cause an allergic reaction.
Contains: Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)
1,2-benzisothiazol-3(2H)- one

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.

Specific target organ toxicity (STOT) – Single exposure
Does not meet the classification criteria for this hazard class.

Specific target organ toxicity (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.



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

11.2 Information on other hazards

Based on the available data, the substance is not included in the main European lists of substances identified or suspected as endocrine disruptors with effects on human health currently under evaluation.

12 ECOLOGICAL INFORMATION

Use in accordance with good industrial hygiene and safety practices. Avoid release into the environment. Inform the competent authorities if the product has entered watercourses or sewer systems, or if it has contaminated soil or vegetation.

12.1 Toxicity

1,2-benzisothiazol-3(2H)- one

LC50 – Fish 2,15 mg/l/96h

EC50 – Crustaceans 2,9 mg/l/48h

EC50 - Algae/Aquatic plants 110 µg/l/72h

EC10 Crustaceans 10,3 mg/l

NOEC Chronic Algae/Aquatic plants 40,3 µg/l

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one; 2-met 2H-isotiazol-3-one (3:1)

LC50 – Fish > 0,19 mg/l/96h

EC50 – Crustaceans 0,007 mg/l/48h

NOEC Chronic Fish 0,02 mg/l

12.2 Persistence and degradability

1,2-benzisothiazol-3(2H)- one

Water solubility 1288 mg/l

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)

Water solubility 10,000 – 4,288,000 mg/l

Inherently biodegradable

12.3 Bioaccumulative potential

1,2-benzisothiazol-3(2H)- one

BCF 6,62 –

12.4 Mobility in soil

Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one; 2-methyl-2H-isothiazol-3-one (3:1)

Soil/water partition coefficient: > 1,06

1,2-benzisothiazol-3(2H)- one

Soil/water partition coefficient 9,33 –

12.5 Results of PBT and vPvB assessment

Based on the available data, the product does not contain PBT or vPvB substances at concentrations of **0.1% or greater**.

12.6 Endocrine-disrupting properties

Based on the available data, the product does not contain substances included in the main European lists of identified or suspected endocrine disruptors with effects on the environment currently under evaluation.

12.7 Other adverse effects

No information available

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Reuse the product wherever possible. Product residues should be regarded as non-hazardous special waste.

Disposal must be carried out by an authorised waste management company in accordance with applicable national and, where applicable, local regulations. Waste generated from the use or accidental release of this product must



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

be managed in accordance with occupational health and safety regulations. Refer to Section 8 for information on the possible need for personal protective equipment.

CONTAMINATED PACKAGING

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

14 TRANSPORT INFORMATION

The product is **not classified as dangerous** under the applicable regulations governing the transport of dangerous goods by: road (A.D.R.), rail (RID), sea (IMDG Code) air (IATA).

- 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: Not relevant.

15 REGULATORY INFORMATION

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

Seveso Category - Directive 2012/18/UE
None

Restrictions relating to the product or contained substances pursuant to Annex XVII to Regulation (EC) No. 1907/2006 (REACH).

Entry 75
Entries 72-77 FORMALDEHYDE

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

Candidate List substances (Article 59 REACH)
Based on the available data, the product does not contain SVHC at concentrations of 0.1% or greater.

Substances subject to authorisation (REACH Annex XIV)
None

Substances subject to export notification under Regulation (EU) No. 649/2012
None

Substances subject to the Rotterdam Convention
None

Substances subject to the Stockholm Convention
None

Health surveillance
No information available.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the mixture or for the substances listed in **Section 3**.

16 OTHER INFORMATION

Full text of the hazard statements (H) referred to in Sections 2 and 3



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry

- Acute Tox. 2 – Acute toxicity, Category 2
- Acute Tox. 3 – Acute toxicity, Category 3
- Acute Tox. 4 – Acute toxicity, Category 4
- Skin Corr. 1C – Skin corrosion, Category 1C
- Eye Dam. 1 – Serious eye damage, Category 1
- Skin Irrit. 2 – Skin irritation, Category 2
- Skin Sens. 1 – Skin sensitisation, Category 1
- Skin Sens. 1A – Skin sensitisation, Category 1A
- Aquatic Acute 1 – Hazardous to the aquatic environment – Acute hazard, Category 1
- Aquatic Chronic 1 – Hazardous to the aquatic environment – Chronic hazard, Category 1
- H310 – Fatal in contact with skin.
- H330 – Fatal if inhaled.
- H301 – Toxic if swallowed.
- H302 – Harmful if swallowed.
- H314 – Causes severe skin burns and eye damage.
- H318 – Causes serious eye damage.
- H315 – Causes skin irritation.
- H317 – May cause an allergic skin reaction.
- H400 – Very toxic to aquatic life.
- H410 – Very toxic to aquatic life with long lasting effects.
- EUH071 – Corrosive to the respiratory tract.
- EUH210 – Safety data sheet available on request.

LEGEND:

- ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE – Acute Toxicity Estimate
- CAS – Chemical Abstracts Service number
- EC – European Community substance identification number (ESIS)
- CLP – Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging
- DNEL – Derived No Effect Level
- EC₅₀ – Effective Concentration, 50%
- EmS – Emergency Schedule
- GHS – Globally Harmonised System of Classification and Labelling of Chemicals
- IATA DGR – International Air Transport Association Dangerous Goods Regulations
- IC₅₀ – Inhibitory Concentration, 50%
- IMDG – International Maritime Dangerous Goods Code
- IMO – International Maritime Organization
- INDEX – Identification number listed in Annex VI to the CLP Regulation
- LC₅₀ – Lethal Concentration, 50%
- LD₅₀ – Lethal Dose, 50%
- OEL – Occupational Exposure Limit
- PBT – Persistent, Bioaccumulative and Toxic
- PEC – Predicted Environmental Concentration
- PEL – Predicted Exposure Level
- PMT – Persistent, Mobile and Toxic
- PNEC – Predicted No Effect Concentration
- REACH – Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
- RID – Regulations concerning the International Carriage of Dangerous Goods by Rail
- TLV – Threshold Limit Value
- TLV CEILING – Ceiling Threshold Limit Value
- TWA – Time-Weighted Average
- STEL – Short-Term Exposure Limit
- VOC – Volatile Organic Compound
- vPvB – Very Persistent and Very Bioaccumulative
- vPvM – Very Persistent and Very Mobile
- WGK – Water Hazard Class (Germany)



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

GENERAL BIBLIOGRAPHY:

- Regulation (EC) No. 1907/2006 of the European Parliament (REACH)
- Regulation (EC) No. 1272/2008 of the European Parliament (CLP)
- Commission Regulation (EU) 2020/878 (Annex II to the REACH Regulation)
- Commission Regulation (EC) No. 790/2009 (1st ATP to the CLP Regulation)
- Commission Regulation (EU) No. 286/2011 (2nd ATP to the CLP Regulation)
- Commission Regulation (EU) No. 618/2012 (3rd ATP to the CLP Regulation)
- Commission Regulation (EU) No. 487/2013 (4th ATP to the CLP Regulation)
- Commission Regulation (EU) No. 944/2013 (5th ATP to the CLP Regulation)
- Commission Regulation (EU) No. 605/2014 (6th ATP to the CLP Regulation)
- Commission Regulation (EU) 2015/1221 (7th ATP to the CLP Regulation)
- Commission Regulation (EU) 2016/918 (8th ATP to the CLP Regulation)
- Commission Regulation (EU) 2016/1179 (9th ATP to the CLP Regulation)
- Commission Regulation (EU) 2017/776 (10th ATP to the CLP Regulation)
- Commission Regulation (EU) 2018/669 (11th ATP to the CLP Regulation)
- Commission Regulation (EU) 2019/521 (12th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2018/1480 (13th ATP to the CLP Regulation)
- Regulation (EU) 2019/1148
- Commission Delegated Regulation (EU) 2020/217 (14th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2020/1182 (15th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2021/643 (16th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2021/849 (17th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2022/692 (18th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2023/707
- Commission Delegated Regulation (EU) 2023/1434 (19th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2023/1435 (20th ATP to the CLP Regulation)
- Commission Delegated Regulation (EU) 2024/197 (21st ATP to the CLP Regulation)
- The Merck Index, 10th Edition
- Handling Chemical Safety
- INRS – Fiche Toxicologique
- Patty's Industrial Hygiene and Toxicology
- N. Irving Sax – Dangerous Properties of Industrial Materials, 7th Edition (1989)
- IFA GESTIS website
- ECHA website
- SDS Model Database for Chemical Substances – Italian Ministry of Health and Istituto Superiore di Sanità (Italian National Institute of Health)

Note to the user

The information contained in this Safety Data Sheet is based on the knowledge available to us at the date of the latest revision. The user is responsible for ensuring that the information is suitable and complete for the intended use of the product. This document should not be construed as guaranteeing any specific property of the product. As the conditions of use of the product are beyond our direct control, it is the user's responsibility to comply with all applicable laws and regulations concerning health and safety. No liability is accepted for improper use of the product. Appropriate training must be provided to personnel handling chemical products.

Classification methods

Physical hazards: The classification of the product has been derived in accordance with the criteria set out in Part 2 of Annex I to the CLP Regulation. Methods for the evaluation of the physicochemical properties are provided in Section 9. **Health hazards:** The classification of the product is based on the calculation methods set out in Part 3 of Annex I to the CLP Regulation, unless otherwise specified in Section 11. **Environmental hazards:** The classification of the product is based on the calculation methods set out in Part 4 of Annex I to the CLP Regulation, unless otherwise specified in Section 12.

Changes compared with the previous revision

The following sections have been revised:

03 / 04 / 09 / 10 / 11 / 12 / 13 / 15 / 16.



Cerca i nostri prodotti
certificati FSC®

Only the products that are
identified as such on this
document are FSC® certified

The mark of
responsible forestry