

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: 159832-100745
Product name: CAT. per HYDROTHANE FL

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

Intended use: Hardener for two components water based paint.

1.3. Details of the supplier of the safety data sheet

Name: Ti.Pi.Ci. S.a.s.
Full address: Via Val Lerone, 21
District and Country: 16011 Arenzano (GE)
Italy
Tel. +39 010 9111368
Fax +39 010 9134188

e-mail address of the competent person responsible for the Safety Data Sheet

laboris@tipici.net

1.4. Emergency telephone number

For urgent inquiries refer to

Centro Antiveleni di Pavia +390382/24444 (CAV IRCCS Fondazione Maugeri - Pavia)
Centro Antiveleni di Milano +3902/66101029 (CAO Ospedale Niguarda Cà Granda - Milano)
Centro Antiveleni di Bergamo +39800883300 (CAV Ospedali Riuniti - Bergamo)
Centro Antiveleni di Firenze +39055/7947819 (CAV Ospedale Careggi - Firenze)
Centro Antiveleni di Roma +3906/3054343 (CAV Policlinico Gemelli - Roma)
Centro Antiveleni di Roma +3906/49978000 (CAV Policlinico Umberto I - Roma)
Centro Antiveleni di Napoli +39081/7472870 (CAV Ospedale Cardarelli - Napoli)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H332	Harmful if inhaled.
Eye irritation, category 2	H319	Causes serious eye irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1B	H317	May cause an allergic skin reaction.
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: Warning

Hazard statements:

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P370+P378	In case of fire: use alcohol-resistant foam, CO ₂ , powders, water spray to extinguish.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P312	Call a POISON CENTRE / doctor / . . . if you feel unwell.

Contains: poliisocianato alifatico idrofilo

2.3. Other hazards

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

SECTION 3. Composition/information on ingredients**3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
poliisocianato alifatico idrofilo		
CAS 160994-68-3	55 = x < 95	Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, Skin Sens. 1B H317, Aquatic Chronic 3 H412
EC 679-501-7		
INDEX -		
2-METHOXY-1-METHYLETHYL ACETATE		

CAS 108-65-6 19 = x < 20 Flam. Liq. 3 H226

EC 203-603-9

INDEX 607-195-00-7

**HEXAMETHYLENE-DI-
ISOCYANATE**

CAS 822-06-0 0 = x < 0,1 Acute Tox. 1 H330, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315,
STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Classification
note/notes according to Annex VI to the CLP Regulation: 2

EC 212-485-8

INDEX 615-011-00-1

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

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

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

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

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

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

DEU Deutschland Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte.

159832-100745 - CAT. per HYDROTHANE FL

ESP España
 FRA France
 ITA Italia
 GBR United Kingdom
 EU OEL EU

TLV-ACGIH

MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher
 Arbeitsstoffe, Mitteilung 56

Límites de exposición profesional para agentes químicos en España 2019

Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS

Decreto Legislativo 9 Aprile 2008, n.81

EH40/2005 Workplace exposure limits (Fourth Edition 2020)

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.

ACGIH 2020

2-METHOXY-1-METHYLETHYL ACETATE**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
VLEP	ITA	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

HEXAMETHYLENE-DI-ISOCYANATE**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
AGW	DEU	0,035	0,005	0,035 (C)	0,005 (C)	
MAK	DEU	0,035	0,005	0,035 (C)	0,005 (C)	C = 0,070 mg/m ³
VLA	ESP	0,035	0,005			
VLEP	FRA	0,075	0,01	0,15	0,02	
TLV-ACGIH		0,034	0,005			

Legend:

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

8.2. Exposure controls

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

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

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

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

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

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

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

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

SECTION 9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	viscous liquid
Colour	transparent
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	55,5 °C
Evaporation Rate	Not available
Flammability of solids and gases	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	1,13 (+-) 0,050
Solubility	soluble in water
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

VOC (Directive 2010/75/EC) :	19,94 % - 225,30 g/litre
VOC (volatile carbon) :	10,86 % - 122,74 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

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

2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

HEXAMETHYLENE-DI-ISOCYANATE

Decomposes at 255°C/491°F. Polymerises at temperatures above 200°C/392°F.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

2-METHOXY-1-METHYLETHYL ACETATE

May react violently with: oxidising substances, strong acids, alkaline metals.

HEXAMETHYLENE-DI-ISOCYANATE

May form explosive mixtures with: alcohols, bases. May react violently with: alcohols, amines, strong bases, oxidising agents, strong acids, water.

10.4. Conditions to avoid

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

HEXAMETHYLENE-DI-ISOCYANATE

Avoid exposure to: high temperatures, moisture.

10.5. Incompatible materials

2-METHOXY-1-METHYLETHYL ACETATE

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

HEXAMETHYLENE-DI-ISOCYANATE

Incompatible with: alcohols, carboxylic acids, amines, strong bases.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

HEXAMETHYLENE-DI-ISOCYANATE

May develop: nitric oxide, hydrogen cyanide.

SECTION 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 toxicological effectsMetabolism, toxicokinetics, mechanism of action and other information**2-METHOXY-1-METHYLETHYL ACETATE**

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure**2-METHOXY-1-METHYLETHYL ACETATE**

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**2-METHOXY-1-METHYLETHYL ACETATE**

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

11,58 mg/l

ATE (Oral) of the mixture:

159832-100745 - CAT. per HYDROTHANE FL

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

2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Oral) 8530 mg/kg Rat

LD50 (Dermal) > 5000 mg/kg Rat

HEXAMETHYLENE-DI-ISOCYANATE

LC50 (Inhalation) 0,124 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

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

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

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

Information not available

12.2. Persistence and degradability

2-METHOXY-1-METHYLETHYL ACETATE

Solubility in water > 10000 mg/l

Rapidly degradable

HEXAMETHYLENE-DI-ISOCYANATE

NOT rapidly degradable

12.3. Bioaccumulative potential

2-METHOXY-1-METHYLETHYL ACETATE

Partition coefficient: n-octanol/water 1,2

HEXAMETHYLENE-DI-ISOCYANATE

Partition coefficient: n-octanol/water 3,2

BCF 3,2

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 = than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

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

ADR / RID, IMDG, IATA: 3272

14.2. UN proper shipping name

ADR / RID: ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE)
 IMDG: ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE)
 IATA: ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE)

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



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: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: -		
IMDG:	EMS: F-E, S-D	Limited Quantities: 5 L	
		Maximum quantity: 220 L	Packaging instructions: 366
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 355
	Pass.:		
	Special provision:	A3	

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

Information not relevant

SECTION 15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EC: P5c

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

Point 3 - 40

Contained substancePoint 75 HEXAMETHYLENE-
DI-ISOCYANATEPoint 75 2-methoxypropyl
acetate

Point 75 2-metossipropanolo

Regulation (EC) No. 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 = 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

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

SECTION 16. Other information

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

Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 1	Acute toxicity, category 1
Acute Tox. 4	Acute toxicity, category 4
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
Skin Sens. 1B	Skin sensitization, category 1B
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H226	Flammable liquid and vapour.
H330	Fatal if inhaled.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
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.
H412	Harmful to aquatic life with long lasting effects.
EUH204	Contains isocyanates. May produce an allergic 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

159832-100745 - CAT. per HYDROTHANE FL

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

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
 2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
 3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
 10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
 11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
 16. Regulation (EU) 2019/521 (XII Atp. CLP)
 17. Regulation (EU) 2019/1148
 18. Regulation (EU) 2020/217 (XIV 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:

02 / 03 / 08 / 10 / 11 / 12 / 15 / 16.