

HI7071 - 3.5M KCI with AgCI Reference Electrolyte

Revision nr.5 Dated 17/01/2023 Printed on 17/01/2023 Page n. 1 / 10 Replaced revision:4 (Dated 14/10/2020)

Safety Data Sheet

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

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

1.1. Product identifier				
Code Product name	HI7071 3.5M KCI with	n AgCl Reference Ele	ectrolyte	
1.2. Relevant identified uses of the substance or mixture and uses advised against				
Intended use	Reference Ele	ectrolyte Solution for	pH and ORP Electrodes.	
1.3. Details of the supplier of the safety data sheet				
Name Full address District and Country e-mail address of the competent person responsible for the Safety Data Sheet 1.4. Emergency telephone number	Hanna Instrur str. Hanna Nr 457260 Tel. Fax msds@hanna	1 loc. Nusfalau Romania +40 260607700 +40 260607700	(Salaj)	
For urgent inquiries refer to	• •	lumber - Internationa 24 hours/365 days	ıl: +1 7035273887 - UK, London: +44 8708200418 -	
SECTION 2. Hazards identification				
2.1. Classification of the substance or mixture The product is classified as hazardous pursuant to t amendments and supplements). The product thus r 2020/878.				
Any additional information concerning the risks for h	nealth and/or th	e environment are g	iven in sections 11 and 12 of this sheet.	
Hazard classification and indication: Hazardous to the aquatic environment, acute toxicity, category 1		H400	Very toxic to aquatic life.	
Hazardous to the aquatic environment, chronic toxicity, category 2		H411	Toxic to aquatic life with long lasting effects.	
2.2. Label elements				
Hazard labelling pursuant to EC Regulation 1272/20 Hazard pictograms:	008 (CLP) and :	subsequent amendn	nents and supplements.	
Signal words: Warning				
Hazard statements:				

H400 H411

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statements: P273 P391

Avoid release to the environment. Collect spillage.



Hanna Instruments S.R.L. HI7071 - 3.5M KCI with AgCI Reference Electrolyte

SECTION 2. Hazards identification ... / >>

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 $\ge 0.1\%$.

SECTION 3. Composition/information on ingredients 3.2. Mixtures Contains: Identification x = Conc. % SILVER CHLORIDE INDEX 0,025 ≤ x < 0,25</td> Met. Corr. 1 H290, Aquatic Acute 1 H400 M=1000, Aquatic Chronic 1 H410 M=100 EC 232-033-3 CAS

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. Rinse skin with a shower immediately. Wash contaminated clothing before using it again. INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately. INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly 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 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).



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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.

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

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

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

AUS BEL CHE	Österreich Belgique Suisse / Schweiz	Gesamte Rechtsvorschrift für Grenzwerteverordnung 2021, Fassung vom 17.06.2021 Liste de valeurs limites d'exposition aux agents chimiques, livre VI du code du bien-être au travail Valeurs limites d'exposition aux postes de travail: VME/VLE (SUVA). Grenzwerte am Arbeitsplatz: MAK (SUVA)
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
DNK	Danmark	Bekendtgørelse om grænseværdier for stoffer og materialer - BEK nr 1458 af 13/12/2019
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SWE	Sverige	Hygieniska gränsvärden, Arbetsmiljöverkets föreskrifter och allmänna råd om hygieniska gränsvärden (AFS 2018:1)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU)



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SECTION 8. Exposure controls/personal protection ... / >>

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.

TLV-ACGIH

ACGIH 2021

SILVER CHLORIDE								
Threshold Limit Va	lue							
Туре	Country	TWA/8h		STEL/15	min	Remarks / Obs	servations	
		mg/m3	ppm	mg/m3	ppm			
MAK	AUS	0,01				INHAL		
VLEP	BEL	0,01					Ag compou	und
MAK	CHE	0,01					Ag compou	und
AGW	DEU	0,01					Ag compou	und
TLV	DNK	0,01		0,02				
VLA	ESP	0,01					Ag compou	und
VLEP	FRA	0,01					Ag compou	und
AK	HUN	0,01					Ag compou	und
NDS/NDSCh	POL	0,05					Ag compou	und
TLV	ROU	0,01					Ag compou	und
NGV/KGV	SWE	0,01					Ag compou	und
WEL	GBR	0,01					Ag compou	und
OEL	EU	0,01					Ag compou	und
TLV-ACGIH		0,01					Ag compou	und
Predicted no-effect	Predicted no-effect concentration - PNEC							
Normal value in	Normal value in fresh water				0,04	µg/L		
Normal value in	Normal value in marine water				0,86	µg/L		
Normal value for	Normal value for fresh water sediment				438	mg/kg		
Normal value for	Normal value for marine water sediment				438	mg/kg		
Normal value o	f STP microo	rganisms					0,025	mg/l
Normal value for	Normal value for the terrestrial compartment				0,794	mg/kg/d		

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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

Comply with the safety measures usually applied when handling chemical substances. HAND PROTECTION None required. SKIN PROTECTION None required. EYE PROTECTION None required. 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 B 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.

Value

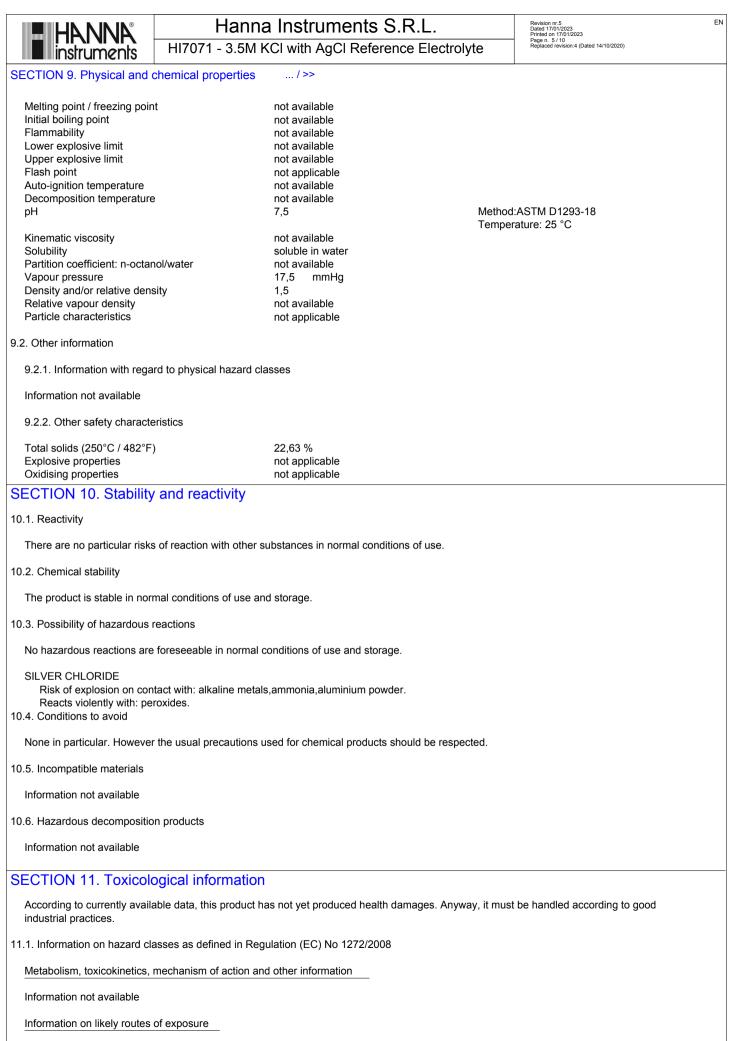
liquid colourless odourless

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties		
Appearance		
Colour		
Odour		

Information





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SECTION 11. Toxicological information ... / >>

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

5000 mg/kg Rat - OECD 401

SILVER CHLORIDE LD50 (Oral):

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

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

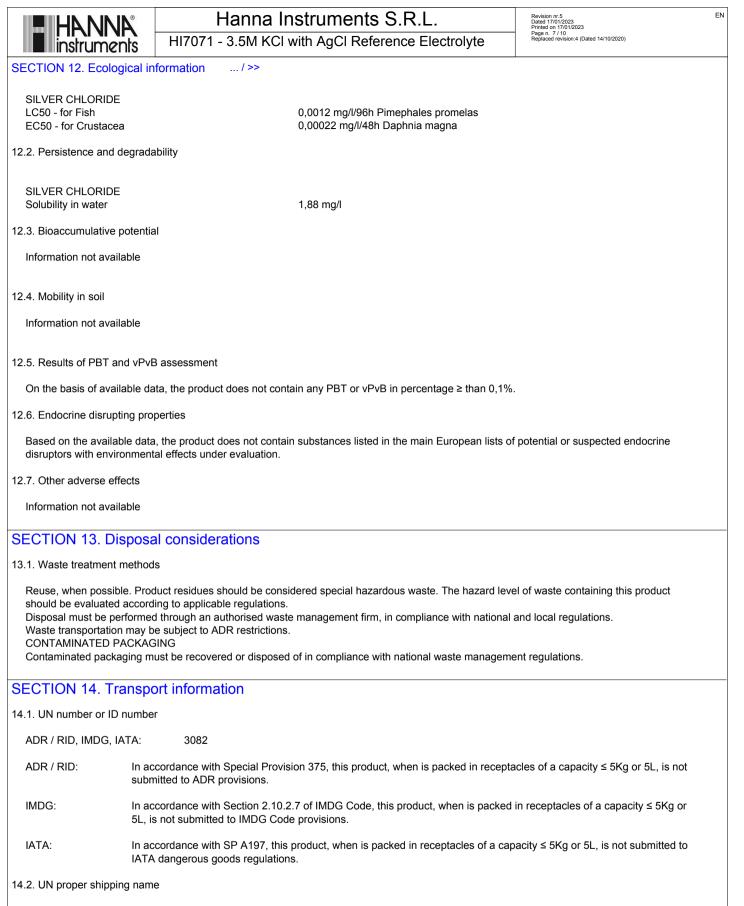
11.2. Information on other hazards

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.

SECTION 12. Ecological information

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

12.1. Toxicity



ADR / RID:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SILVER CHLORIDE MIXTURE)
IMDG:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SILVER CHLORIDE MIXTURE)
IATA:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SILVER CHLORIDE MIXTURE)

@EPY 11.3.0 - SDS 1004.14

HANNA	®		struments S.R.L.	Revision nr.5 EN Dated 17/01/2023 Printed on 17/01/2023 Page n. 8 / 10 Replaced revision.4 (Dated 14/10/2020)
SECTION 14. Transpo			vith AgCl Reference Electrolyte	
		1		
14.3. Transport hazard cl		Labala O		
ADR / RID:	Class: 9	Label: 9	9	
IMDG:	Class: 9	Label: 9		
IATA:	Class: 9	Label: 9		
14.4. Packing group				
ADR / RID, IMDG, IAT	A: III			
14.5. Environmental haza	ırds		•	
ADR / RID:	Environmenta	lly Hazardous		
IMDG:	Marine Polluta	ant		
ΙΑΤΑ:	Environmentally Hazardous			
14.6. Special precautions	for user			
ADR / RID:		N - Kemler: 90	Limited Quantities: 5 L	Tunnel restriction code: (E)
IMDG: IATA:	EN Ca Pa	ecial provision: - IS: F-A, S-F rgo: ss.: ecial provision:	Limited Quantities: 5 L Maximum quantity: 450 L Maximum quantity: 450 L A97, A158, A197	Packaging instructions: 964 Packaging instructions: 964
14.7. Maritime transport in				
Information not releva		5		
	ulatan inf	a ma ati a n		
SECTION 15. Reg	ulatory init	ormation		
15.1. Safety, health and e	environmental	regulations/legislatio	n specific for the substance or mixture	
Seveso Category - Dir	ective 2012/18	3/EU:	E1	
Restrictions relating to Product Point	the product of 3	r contained substand	ces pursuant to Annex XVII to EC Regulation	n 1907/2006
Regulation (EU) 2019/ not applicable	1148 - on the	marketing and use o	f explosives precursors	
Substances in Candida On the basis of availab			ain any SVHC in percentage ≥ than 0,1%.	
Substances subject to None	authorisation	(Annex XIV REACH))	
Substances subject to None	exportation re	porting pursuant to F	Regulation (EU) 649/2012:	
Substances subject to	the Rotterdam	Convention:		
				@EPY 11.3.0 - SDS 1004.14



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SECTION 15. Regulatory information ... / >>

None

Substances subject to the Stockholm Convention: None

Healthcare controls Information not available

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017) WGK 2: Hazard to waters

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:

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H290	May be corrosive to metals.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic 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



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SECTION 16. Other information ... / >>

- 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) of the European Panlament
- 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.

Changes to previous review: The following sections were modified: 02 / 03 / 08 / 09 / 11 / 12 / 15 / 16. EN