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	**HI700641**
Product name	**pH and ORP Electrode Cleaning Solution**

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

Intended use	**pH and ORP Electrode Dairy Products Cleaning Solution.**

1.3. Details of the supplier of the safety data sheet

Name	**Hanna Instruments S.R.L.**
Full address	**str. Hanna Nr 1**
District and Country	**457260 loc. Nusfalau (Salaj)** **Romania** **Tel. +40 260607700** **Fax +40 260607700**
e-mail address of the competent person responsible for the Safety Data Sheet	**msds@hanna.ro**

1.4. Emergency telephone number

For urgent inquiries refer to	**Emergency Number - International: +1 7035273887 - UK, London: +44 8708200418 - CHEMTREC 24 hours/365 days**

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.

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.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P370+P378	In case of fire: use powder to extinguish.

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 greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
ETHANOL		
CAS *64-17-5*	1 ≤ x < 5	**Flam. Liq. 2 H225, Eye Irrit. 2 H319**
EC *200-578-6*		
INDEX *603-002-00-5*		
Reg. no. *01-2119457610-43*		
ISOPROPYL ACETATE		
CAS *108-21-4*	1 ≤ x < 5	**Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066, Classification note according to Annex VI to the CLP Regulation: C**
EC *203-561-1*		
INDEX *607-024-00-6*		
ACETONE		
CAS *67-64-1*	0 ≤ x < 0,5	**Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**
EC *200-662-2*		
INDEX *606-001-00-8*		
Reg. no. *01-2119471330-49*		
BENZALKONIUM CHLORIDE		
CAS *63449-41-2*	0 ≤ x < 0,5	**Acute Tox. 4 H302, Acute Tox. 4 H312, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=1**
EC *264-151-6*		
INDEX *612-140-00-5*		
CHLORHEXIDINE DIGLUCONATE		
CAS *18472-51-0*	0 ≤ x < 0,25	**Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1**
EC *242-354-0*		
INDEX		

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.

ETHANOL
Irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting.

ISOPROPYL ACETATE
Irritant effects, respiratory paralysis, Drowsiness, Dizziness, narcosis, Headache, drowziness.

ACETONE
Irritant effects, Drowsiness, Dizziness, narcosis, Nausea, Vomiting, Stomach/intestinal disorders, Headache, somnolence, Salivation, Coma, Risk of corneal clouding. Drying-out effect resulting in rough and chapped skin.

BENZALKONIUM CHLORIDE
Irritation and corrosion, Cough, Shortness of breath, Risk of blindness!.

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.

ETHANOL
Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Pay attention to flashback. Development of hazardous combustion gases or vapours possible in the event of fire.

ISOPROPYL ACETATE
Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Pay attention to flashback. Development of hazardous combustion gases or vapours possible in the event of fire.

ACETONE
Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Pay attention to flashback. Development of hazardous combustion gases or vapours possible in the event of fire.

BENZALKONIUM CHLORIDE
Combustible. Vapours are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Fire may cause evolution of: Hydrogen chloride gas, nitrogen oxides.

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. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. 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. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a 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.

Storage class TRGS 510 (Germany): 3

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

DEU	Deutschland	TRGS 900 (Fassung 31.1.2018 ber.) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
HUN	Magyarország	50/2011. (XII. 22.) NGM rendelet a munkahelyek kémiai biztonságáról
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
ROU	România	Monitorul Oficial al României 44; 2012-01-19
EU	OEL EU	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 91/322/EEC.
	TLV-ACGIH	ACGIH 2018

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

ETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	960	500	1920	1000	
MAK	DEU	960	500	1920	1000	
VLA	ESP			1910	1000	
VLEP	FRA	1900	1000	9500	5000	
WEL	GBR	1920	1000			
AK	HUN	1900		7600		
OEL	NLD	260		1900		SKIN
TLV	ROU	1900	1000	9500	5000	
TLV-ACGIH				1884	1000	

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,96	mg/l
Normal value in marine water	0,79	mg/l
Normal value for fresh water sediment	3,6	mg/kg/d
Normal value for marine water sediment	2,9	mg/kg/d
Normal value for water, intermittent release	2,75	mg/l
Normal value of STP microorganisms	580	mg/l
Normal value for the food chain (secondary poisoning)	720	mg/kg
Normal value for the terrestrial compartment	0,36	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	87 mg/kg bw/d				
Inhalation	VND	950 mg/m3	950 mg/m3	114 mg/m3	1900 mg/m3	VND	1900 mg/m3	950 mg/m3
Skin			VND	206 mg/kg bw/d			VND	343 mg/kg bw/d

ISOPROPYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	DEU	420	100	840	200
VLA	ESP	425	100	850	200
VLEP	FRA	950	250	1140	300
WEL	GBR			849	200
AK	HUN	840		840	
TLV-ACGIH		418	100		200

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,22	mg/l
Normal value in marine water	0,022	mg/l
Normal value for fresh water sediment	1,25	mg/kg/d
Normal value for marine water sediment	0,125	mg/kg/d
Normal value of STP microorganisms	190	mg/l
Normal value for the terrestrial compartment	0,35	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation		335 mg/m3	136 mg/m3	168 mg/m3		558 mg/m3	227 mg/m3	275 mg/m3
Skin				16 mg/kg bw/d				27 mg/kg bw/d

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

ACETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
AGW	DEU	1200	500	2400	1000
MAK	DEU	1200	500	2400	1000
VLA	ESP	1210	500		
VLEP	FRA	1210	500	2420	1000
WEL	GBR	1210	500	3620	1500
AK	HUN	1210		2420	
VLEP	ITA	1210	500		
OEL	NLD	1210		2420	
OEL	EU	1210	500		
TLV-ACGIH		1187	500	1781	750

Predicted no-effect concentration - PNEC

Normal value in fresh water	10,6	mg/l
Normal value in marine water	1,06	mg/l
Normal value for fresh water sediment	30,4	mg/kg/d
Normal value for marine water sediment	3,04	mg/kg/d
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	29,5	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	62 mg/kg bw/d				
Inhalation			VND	200 mg/m3	2420 mg/m3	VND	VND	1210 mg/m3
Skin			VND	62 mg/kg bw/d			VND	186 mg/kg bw/d

CHLORHEXIDINE DIGLUCONATE

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	0,03 mg/kg bw/d				
Inhalation			VND	0,1 mg/m3			VND	0,42 mg/m3
Skin	VND	5 mg/kg bw/d	VND	3 mg/kg bw/d			VND	5 mg/kg bw/d

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

ACETONE
Methods for measurement of the workplace atmosphere have to correspond to the requirements of norm NIOSH 2027. Biological Values, ACGIH: 25 mg/L Acetone in urine (end of shift), DEU: 80 mg/L Aceton Urin (Schichtende), ESP: 50 mg/L Acetona en orina (Final de la jornada laboral), ROU: 50 mg/L Acetonal in urină (sfârşit schimb).

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.
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 I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

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

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, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (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.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance		liquid
Colour		colourless
Odour		Alcohol
Odour threshold		Not available
pH		6
Melting point / freezing point		Not available
Initial boiling point	>	35 °C
Boiling range		Not available
Flash point		26 °C
Evaporation rate		Not available
Flammability (solid, gas)		Not available
Lower inflammability limit		Not available
Upper inflammability limit		Not available
Lower explosive limit		Not available
Upper explosive limit		Not available
Vapour pressure		Not available
Vapour density		Not available
Relative density		1,00
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 applicable
Oxidising properties		not applicable

9.2. Other information

Total solids (250°C / 482°F)	0,20 %			
VOC (Directive 2010/75/EC) :	6,25 %	-	62,50	g/litre
VOC (volatile carbon) :	3,36 %	-	33,57	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.

ETHANOL
Vapours may form explosive mixture with air.

ACETONE
Decomposes under the effect of heat.

BENZALKONIUM CHLORIDE
Attacks carbon steel, copper, aluminium and their alloys.

SECTION 10. Stability and reactivity ... / >>

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.

ETHANOL
Risk of explosion on contact with: alkaline metals, alkaline oxides, calcium hypochlorite, sulphur monofluoride, acetic anhydride (with acids), concentrated hydrogen peroxide, perchlorates, perchloric acid, perchloronitrile, mercury nitrate, nitric acid, silver and nitric acid, silver nitrate, silver nitrate and ammonia, silver oxide and ammonia, strong oxidising agents, nitrogen dioxide. Can react dangerously with: bromoacetylene, chlorine acetylene, bromine trifluoride, chromium trioxide, chromyl chloride, oxiranes, fluorine, potassium tert-butoxide, lithium hydride, phosphorus trioxide, black platinum, zirconium (IV) chloride, zirconium (IV) iodide. Forms an explosive mixture with the air.

ISOPROPYL ACETATE
Reacts violently with: strong oxidising agents,alkaline substances,bases.

ACETONE
Risk of explosion on contact with: bromine trifluoride, difluoro dioxide, hydrogen peroxide, nitrosyl chloride, 2-methyl-1,3 butadiene, nitromethane, nitrosyl perchlorate. Can react dangerously with: potassium tert-butoxide, alkaline hydroxides, bromine, bromoform, isoprene, sodium, sulphur dioxide, chromium trioxide, chromyl chloride, nitric acid, chloroform, peroxymonosulphuric acid, phosphoryl chloride, chromosulphuric acid, fluorine, strong oxidising agents. Develops flammable gases with nitrosyl perchlorate.

10.4. Conditions to avoid

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

ETHANOL
Avoid exposure to sources of heat and naked flames.

ISOPROPYL ACETATE
Avoid exposure to: heat.

ACETONE
Avoid exposure to sources of heat and naked flames.

10.5. Incompatible materials

ETHANOL
Rubber, various plastics.

ACETONE
Acid and oxidising substances.

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.

ACETONE
Ketenes and other irritating compounds.

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 effects

ETHANOL
Acute oral toxicity: Symptoms: Nausea, Vomiting - Acute inhalation toxicity: Symptoms: Possible damages:, mucosal irritations absorption - Eye irritation Rabbit Result: Eye irritation. Causes serious eye irritation - Germ cell mutagenicity Genotoxicity in vitro Ames test Salmonella typhimurium Result: negative - In vitro mammalian cell gene mutation test Mouse lymphoma test Result: negative.

SECTION 11. Toxicological information ... / >>

ISOPROPYL ACETATE
Acute oral toxicity, Symptoms: Risk of aspiration upon vomiting, Pulmonary failure possible after aspiration of vomit - Acute inhalation toxicity, Symptoms: Possible damages, mucosal irritations - Acute dermal toxicity, Skin irritation, Repeated exposure may cause skin dryness or cracking - Eye irritation, Causes serious eye irritation.

ACETONE
Acute oral toxicity, Symptoms: Stomach/intestinal disorders, Risk of aspiration upon vomiting, Pulmonary failure possible after aspiration of vomit - Acute inhalation toxicity, Symptoms: mucosal irritations absorption - Acute dermal toxicity, Skin irritation, Rabbit, Result: No irritation, Repeated exposure may cause skin dryness or cracking - Eye irritation, Rabbit, Result: Eye irritation, Causes serious eye irritation.

BENZALKONIUM CHLORIDE
Acute oral toxicity, Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. absorption - Acute inhalation toxicity, Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract - Skin irritation, Mixture causes burns - Eye irritation, Mixture causes serious eye damage. Risk of blindness!

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

LC50 (Inhalation) of the mixture:	Not classified (no significant component)
LD50 (Oral) of the mixture:	Not classified (no significant component)
LD50 (Dermal) of the mixture:	Not classified (no significant component)

ETHANOL

LD50 (Oral)	> 5000 mg/kg Rat
LC50 (Inhalation)	120 mg/l/4h Pimephales promelas

ACETONE

LD50 (Oral)	5800 mg/kg Rat
LD50 (Dermal)	7426 mg/kg Guinea pig
LC50 (Inhalation)	76 mg/l/4h

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

SECTION 11. Toxicological information ... / >>

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

SECTION 12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

12.1. Toxicity

ETHANOL	
LC50 - for Fish	14200 mg/l/96h Pimephales promelas
EC50 - for Crustacea	14221 mg/l/48h Daphnia magna
Chronic NOEC for Crustacea	9,6 mg/l Daphnia magna
BENZALKONIUM CHLORIDE	
LC50 - for Fish	0,3 mg/l/96h
ACETONE	
LC50 - for Fish	5540 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	6100 mg/l/48h Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	530 mg/l M. aeruginosa
CHLORHEXIDINE DIGLUCONATE	
LC50 - for Fish	2,08 mg/l/96h Brachydanio rerio
EC50 - for Crustacea	0,087 mg/l/48h Daphnia magna
EC10 for Algae / Aquatic Plants	0,03 mg/l/72h Scenedesmus subspicatus
Chronic NOEC for Crustacea	0,0206 mg/l Daphnia magna

12.2. Persistence and degradability

ETHANOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
BENZALKONIUM CHLORIDE	
NOT rapidly degradable	
ACETONE	
Rapidly degradable	
ISOPROPYL ACETATE	
Solubility in water	> 10000 mg/l

12.3. Bioaccumulative potential

ETHANOL	
Partition coefficient: n-octanol/water	-0,35

SECTION 12. Ecological information ... / >>

BENZALKONIUM CHLORIDE
Partition coefficient: n-octanol/water 0,9 Log Kow

ACETONE
Partition coefficient: n-octanol/water -0,23
BCF 3

ISOPROPYL ACETATE
Partition coefficient: n-octanol/water 1,03

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

ETHANOL
No interference with wastewater treatment plants are to be expected when used properly. Discharge into the environment must be avoided.

CHLORHEXIDINE DIGLUCONATE
Very toxic to aquatic life.

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: 1993

14.2. UN proper shipping name

ADR / RID: FLAMMABLE LIQUID, N.O.S. (ETHANOL; ISOPROPYL ACETATE)
IMDG: FLAMMABLE LIQUID, N.O.S. (ETHANOL; ISOPROPYL ACETATE)
IATA: FLAMMABLE LIQUID, N.O.S. (ETHANOL; ISOPROPYL 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

SECTION 14. Transport information ... / >>

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-E	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum quantity: 60 L	Packaging instructions: 355
	Special Instructions:	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 1907/2006
Product
Point 3 - 40

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Information not available

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)
WGK 1: Low hazard to waters

15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

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

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 4	Acute toxicity, category 4
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
H225	Highly flammable liquid and vapour.

SECTION 16. Other information ... / >>

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

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

GENERAL BIBLIOGRAPHY
1. Regulation (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)

- 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

SECTION 16. Other information ... / >>

Note for users:The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
01 / 03 / 11.