

HI93711-0 - Total Chlorine Reagent

Safety data sheet according to Regulation (EC) No. 1907/2006

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

1.1. Product identi	fier.
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Code. Product name. HI93711-0 **Total Chlorine Reagent**

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

Intended use.

Determination of Total Chlorine in Water Samples.

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

Name. Full address.	Hanna Instruments S.R.L. 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)-703-527-3887 - UK, London:

For urgent inquiries refer to.	Emergency Number - International: +(1)-703-527-3887 - L
	+(44)-870-8200418 - 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 EC Regulation 1907/2006 and subsequent amendments.

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:		
Specific target organ toxicity - repeated exposure,	H372	Causes damage to organs through prolonged or repeated
category 1		exposure.
Skin irritation, category 2	H315	Causes skin irritation.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



P362

Signal words:	Danger
Hazard statements: H372 H315	Causes damage to organs through prolonged or repeated exposure. Causes skin irritation.
Precautionary statements	S:
P260	Do not breathe dust, fume, gas, mist, vapours, spray.
P280	Wear protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P312	Call a POISON CENTER or doctor, if you feel unwell.

Take off contaminated clothing.



Revision nr.1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 2 / 10

SECTION 2. Hazards identification. ... />>

Contains: POTASSIUM IODIDE

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.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identifica	ition.	x = Conc. %.	Classification 1272/2008 (CLP).	
CAS. EC.	7681-11-0 231-659-4	10 ≤ x < 30	Acute Tox. 4 H302, STOT RE 1 H372, Skin Irrit. 2 H315	
INDEX.	237-039-4			
EDTA DIS	SODIUM SAL	Г		
CAS.	6381-92-6	1 ≤ x < 5	Acute Tox. 4 H332, STOT RE 2 H373	
EC.	205-358-3			
INDEX.				
Reg. no.	01-21194867	75-20		
N,N-DIET	N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE			
CAS.	6283-63-2	1 ≤ x < 5	Acute Tox. 4 H302	
EC.	228-500-6			
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. For symptoms and effects caused by the contained substances, see chap. 11.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE

Irritant effects. The following applies to aromatic amines in general: systemic effect: methaemoglobinaemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea, and spasms, principal symptom: cyanosis (blue discolouration of the blood).

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. ΕN



Revision nr.1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 3 / 10

SECTION 5. Firefighting measures. ... / >>

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products. The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

EDTA DISODIUM SALT

Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. Fire may cause evolution of: nitrogen oxides.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE

Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. Fire may cause evolution of: nitrous gases, nitrogen oxides, Sulphur oxides.

POTASSIUM IODIDE

Hydrogen iodide, Potassium 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.

If there are no contraindications, spray powder with water to prevent the formation of dust.

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 and place it in containers for recovery or disposal. If the product is flammable, use explosion-proof equipment. If there are no contraindications, use jets of water to eliminate product residues.

Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. 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.

Storage class TRGS 510 (Germany): 6.1C

7.3. Specific end use(s).

Information not available.



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HI93711-0 - Total Chlorine Reagent

Revision nr 1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 4 / 10

ΕN

Regulatory References	3:							
т	LV-ACGIH	ACGIH 2016						
			POTAS	SIUM IODIDE				
hreshold Limit Valu								
Туре С	,	TWA/8h	STEL/1					
	r	mg/m3 ppm	mg/m3	ppm				
TLV-ACGIH	oncontratio	0,01						
redicted no-effect c Normal value in fre		DII - PNEC.				0,007	mg/l	
Normal value for fr		ediment				0,007	mg/kg	
Normal value for w						0,007	mg/l	
ealth - Derived no-e						0,010	mg/i	
		on consumers.			Effects on wo	orkers		
Route of exposure	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chroni	Chroni
	local	systemic	local	systemic		systemic	c local	system
Oral.		,	VND	0,01		,		,
				mg/kg bw/d				
Inhalation.			VND	0,035			VND	0,07
				mg/m3				mg/m3
Oluin			VND	1			VND	1
Skin.			VIND	1				
Skin.			VIND	i mg/kg bw/d			VII B	mg/kg bw/d
Skin.				mg/kg bw/d			VIL S	mg/kg
	oncentratic	on - PNEC		=				mg/kg
redicted no-effect c		on - PNEC.		mg/kg bw/d		22		mg/kg
redicted no-effect c Normal value in fre	sh water	on - PNEC.		mg/kg bw/d		2,2 0.22	mg/l	mg/kg
redicted no-effect c Normal value in fre Normal value in ma	sh water arine water			mg/kg bw/d		2,2 0,22 43	mg/l mg/l	mg/kg
redicted no-effect c Normal value in fre Normal value in ma Normal value of ST	sh water arine water P microorga	anisms		mg/kg bw/d		0,22 43	mg/l mg/l mg/l	mg/kg
redicted no-effect c Normal value in fre Normal value in ma Normal value of ST Normal value for th	sh water arine water P microorga e terrestrial	anisms compartment		mg/kg bw/d		0,22	mg/l mg/l	mg/kg
Predicted no-effect c Normal value in fre Normal value in ma Normal value of ST Normal value of th	sh water arine water P microorga e terrestrial ffect level -	anisms compartment		mg/kg bw/d	Effects on wo	0,22 43 0,72	mg/l mg/l mg/l mg/kg/	mg/kg
Predicted no-effect c Normal value in fre Normal value in ma Normal value of ST	sh water arine water P microorga e terrestrial ffect level -	anisms compartment - DNEL / DMEL		mg/kg bw/d	Effects on we Acute local	0,22 43 0,72	mg/l mg/l mg/l mg/kg/	mg/kg bw/d
redicted no-effect c Normal value in fre Normal value in ma Normal value of ST Normal value of th lealth - Derived no-e	sh water arine water P microorga e terrestrial ffect level - Effects	anisms compartment - DNEL / DMEL on consumers.	EDTA DI	mg/kg bw/d		0,22 43 0,72 orkers	mg/l mg/l mg/l mg/kg/ d	mg/kg bw/d
redicted no-effect c Normal value in fre Normal value in ma Normal value of ST Normal value of th lealth - Derived no-e	sh water arine water 'P microorga e terrestrial ffect level - Effects Acute	anisms compartment • DNEL / DMEL on consumers. Acute	EDTA DI	mg/kg bw/d		0,22 43 0,72 orkers Acute	mg/l mg/l mg/kg/ d Chroni	mg/kg bw/d
redicted no-effect c Normal value in fre Normal value in ma Normal value of ST Normal value of th lealth - Derived no-e Route of exposure	sh water arine water 'P microorga e terrestrial ffect level - Effects Acute local	anisms compartment - DNEL / DMEL on consumers. Acute systemic 25	EDTA DI	mg/kg bw/d		0,22 43 0,72 orkers Acute	mg/l mg/l mg/kg/ d Chroni	mg/kg

kplace is well aired through effective local aspiration. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

SKIN PROTECTION

Wear category III 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.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).



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

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

Use a type P filtering facemask (see standard EN 149) or equivalent device, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment.

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	powder
Colour	ivory
Odour	odourless
Odour threshold.	Not available.
pH.	5.8 - 6.2 pH, 15 g/L
Melting point / freezing point.	Not available.
Initial boiling point.	Not applicable.
Boiling range.	Not available.
Flash point.	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	not flammable
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.	2,100
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.	
Total solids (250°C / 482°F)	98,00 %
VOC (Directive 2010/75/EC) :	0
VOC (volatile carbon) :	0

SECTION 10. Stability and reactivity.

10.1. Reactivity.

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

10.2. Chemical stability.

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

POTASSIUM IODIDE May decompose on exposure to air and moisture. Stable under recommended storage conditions.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE Sensitive to moisture, Sensitivity to light.

10.3. Possibility of hazardous reactions.

The powders are potentially explosive when mixed with air.

EDTA DISODIUM SALT Violent reactions possible with: Strong oxidizing agents.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE



Revision nr.1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 6 / 10

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

Violent reactions possible with: Strong oxidizing agents.

10.4. Conditions to avoid.

Avoid environmental dust build-up.

POTASSIUM IODIDE Tin/tin oxides.

EDTA DISODIUM SALT Strong heating.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE Strong heating (decomposition).

10.5. Incompatible materials.

POTASSIUM IODIDE

Strong reducing agents, Nickel, Strong acids, and its alloys, Steel (all types and surface treatments), Aluminum, Alkali metals, Brass, Magnesium, Zinc, cadmium, Copper.

EDTA DISODIUM SALT Aluminium, Copper, Copper alloys, Nickel, Zinc.

10.6. Hazardous decomposition products.

Information not available.

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.

EDTA DISODIUM SALT

Skin irritation, Rabbit, Result: No irritation, (anhydrous substance) - Eye irritation, Rabbit, Result: No eye irritation, (anhydrous substance) - Sensitisation, Sensitisation possible in predisposed persons - Germ cell mutagenicity Genotoxicity in vitro, Ames test, Salmonella typhimurium, Result: negative (anhydrous substance), Mouse lymphoma test, Result: negative, (anhydrous substance) - Specific target organ toxicity, repeated exposure, Target Organs: Respiratory Tract, May cause amage to organs through prolonged or repeated exposure - Repeated dose toxicity, Rat male, Inhalation aerosol, 5 d daily, LOAEL: 0,03 mg/l, Target Organs: Lungs, larynx - Repeated dose toxicity, Rat male and female, Inhalation dust/mist, 90 d daily, NOAEL: 0,003 mg/l, Target Organs: larynx.

N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE

Acute inhalation toxicity, Symptoms: Irritation symptoms in the respiratory tract - Skin irritation, slight irritation - Sensitisation, Sensitisation possible in predisposed persons.

POTASSIUM IODIDE

Skin corrosion/irritation, Skin, rabbit, Result: Irritating to skin - Serious eye damage/eye irritation, Eyes, rabbit, Result: Irritating to eyes, 24 h, (Draize Test) - Respiratory or skin sensitisation, Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals - Reproductive toxicity, Exposure to excessive amounts of iodine during pregnancy is capable of producing fetal hypothyroidism, Iodine-containing drugs have been associated with fetal goiter - Additional Information, Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration, Liver, Irregularities, Based on Human Evidence.

ACUTE TOXICITY.

LC50 (Inhalation - vapours) of the mixture: LC50 (Inhalation - mists / powders) of the mixture: LD50 (Oral) of the mixture: LD50 (Dermal) of the mixture: Not classified (no significant component). 30,000 mg/l 13275,335 mg/kg Not classified (no significant component).



Revision nr.1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 7 / 10

SECTION 11. Toxicological information. .../>>

EDTA DISODIUM SALT LD50 (Oral).	> 2800 mg/kg Rat
N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATI LD50 (Oral).	E > 497 mg/kg Rat
POTASSIUM IODIDE LD50 (Oral).	1000 mg/kg Mouse
SKIN CORROSION / IRRITATION. Causes skin irritation.	
SERIOUS EYE DAMAGE / IRRITATION. Does not meet the classification criteria for this hazard cla	ass.
RESPIRATORY OR SKIN SENSITISATION. Does not meet the classification criteria for this hazard cla	ass.
GERM CELL MUTAGENICITY. Does not meet the classification criteria for this hazard cla	ass.
CARCINOGENICITY. Does not meet the classification criteria for this hazard cla	ass.
REPRODUCTIVE TOXICITY. Does not meet the classification criteria for this hazard cla	ass.
STOT - SINGLE EXPOSURE. Does not meet the classification criteria for this hazard cla	ass.
STOT - REPEATED EXPOSURE. Causes damage to organs.	
ASPIRATION HAZARD. Does not meet the classification criteria for this hazard cla	355.
SECTION 12. Ecological information.	
Use this product according to good working practice waterways or contaminate soil or vegetation.	es. Avoid littering. Inform the competent authorities, should the product reach
12.1. Toxicity. EDTA DISODIUM SALT Toxicity to bacteria, EC50 activated sludge: 403 mg/l, 3 h POTASSIUM IODIDE Toxicity to daphnia and other aquatic invertebrates, EC50	, - EC50 Pseudomonas putida: 56 mg/l, 8 h (anhydrous substance).), Daphnia: 2,7 mg/l - 24 h.
EDTA DISODIUM SALT LC50 - for Fish. 320 r	ng/l/96h Poecilia Reticulata
POTASSIUM IODIDE LC50 - for Fish. 2190	mg/l/96h Oncorhynchus mykiss
12.2. Persistence and degradability.	
EDTA DISODIUM SALT Solubility in water. 20°C	r mg/l
POTASSIUM IODIDE Solubility in water. > 100 Rapidly biodegradable.	000 mg/l
12.3. Bioaccumulative potential. N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATI Partition coefficient: n-octanol/water, log Pow: 2.24 (calcu	



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HI93711-0 - Total Chlorine Reagent

Revision nr 1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 8 / 10

SECTION 12. Ecological information. .../>>

POTASSIUM IODIDE	
Partition coefficient: n-octanol/water.	-0,958
BCF.	2,268

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%.

958

12.6. Other adverse effects.

EDTA DISODIUM SALT Discharge into the environment must be avoided. N,N-DIETHYL-1,4-PHENYLENEDIAMMONIUM SULFATE Discharge into the environment must be avoided.

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. CONTAMINATED PACKAGING

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

SECTION 14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number.

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. 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.



SECTION 15. Regulatory information. ... / >>

Seveso Category - Directive 2012/18/EC:

None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006. None.

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 authorisarion (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:

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.

WGK 2: 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:

Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Irrit. 2	Skin irritation, category 2
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H315	Causes skin irritation.

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



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HI93711-0 - Total Chlorine Reagent

Revision nr.1 Dated 26/09/2016 Printed on 10/10/2016 Page n. 10 / 10

SECTION 16. Other information. .../>>

ΕN

- 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 (EU) 1907/2006 (REACH) of the European Parliament
- 2. Regulation (EU) 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
- 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
- ECHA website

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 / 08 / 09.