

## 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 identifier.

Code.	<b>HI93731B-0</b>
Product name.	<b>Zinc Reagent B</b>
Chemical name and synonym.	<b>CYCLOHEXANONE</b>
INDEX number.	<b>606-010-00-7</b>
EC number.	<b>203-631-1</b>
CAS number.	<b>108-94-1</b>

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

Intended use.	<b>Determination of Zinc in Water Samples.</b>
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#### 1.3. Details of the supplier of the safety data sheet.

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

#### 1.4. Emergency telephone number.

For urgent inquiries refer to.	<b>Emergency Number - International: +(1)-703-527-3887 - UK, London: +(44)-870-8200418 - CHEMTREC 24 hours/365 days</b>
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### 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:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H302	Harmful if swallowed.
Acute toxicity, category 4	H312	Harmful in contact with skin.
Acute toxicity, category 4	H332	Harmful if inhaled.
Serious eye damage, category 1	H318	Causes serious eye damage.
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:



Signal words: **Danger**

Hazard statements:  
**H226** Flammable liquid and vapour.

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

<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H318</b>	Causes serious eye damage.
<b>H315</b>	Causes skin irritation.

#### Precautionary statements:

<b>P243</b>	Take precautionary measures against static discharge.
<b>P261</b>	Avoid breathing dust, fume, gas, mist, vapours, spray.
<b>P280</b>	Wear protective gloves, protective clothing, eye protection and face protection.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water and soap.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P312</b>	Call a POISON CENTER or doctor, if you feel unwell.
<b>P362</b>	Take off contaminated clothing.
<b>P370+P378</b>	In case of fire: use powder to extinguish.
<b>P210</b>	Keep away from heat.

**Contains:** CYCLOHEXANONE

INDEX. 606-010-00-7

### 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.

#### Contains:

Identification.	x = Conc. %.	Classification 1272/2008 (CLP).
<b>CYCLOHEXANONE</b>		
CAS. 108-94-1	100	Flam. Liq. 3 H226, Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Dam. 1 H318, Skin Irrit. 2 H315
EC. 203-631-1		
INDEX. 606-010-00-7		

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

### 3.2. Mixtures.

Information not relevant.

## 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.

For symptoms and effects caused by the contained substances, see chap. 11.

#### CYCLOHEXANONE

Irritant effects, Dizziness, narcosis, Nausea, Vomiting, Stomach/intestinal disorders, Headache, Salivation, Coma, Risk of corneal clouding. The following applies to ketones in general: when vapours/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract.

### SECTION 4. First aid measures. ... / >>

#### 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.

##### CYCLOHEXANONE

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

#### 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. 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. If the product is flammable, use explosion-proof equipment. 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 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

### SECTION 7. Handling and storage. ... / >>

#### 7.3. Specific end use(s).

Information not available.

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

#### 8.1. Control parameters.

Regulatory References:

DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
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 Council of Netherlands (SER) Values, AF 2011:18
EU	OEL EU	Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
	TLV-ACGIH	ACGIH 2016

#### CYCLOHEXANONE

##### Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	80	20	80	20	SKIN.
VLA	ESP	41	10	82	20	SKIN.
VLEP	FRA	40,8	10	81,6	20	
WEL	GBR	41	10	82	20	SKIN.
AK	HUN	40,8		81,6		
VLEP	ITA	40,8	10	81,6	20	SKIN.
OEL	NLD			50		SKIN.
OEL	EU	40,8	10	81,6	20	SKIN.
TLV-ACGIH		80	20	201	50	

##### Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,033	mg/l
Normal value in marine water	0,003	mg/l
Normal value for fresh water sediment	0,168	mg/kg/
Normal value for marine water sediment	0,017	mg/kg/
Normal value for water, intermittent release	0,329	mg/l
Normal value of STP microorganisms	10	mg/l

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.	50	50	20	20	100	100	80	100
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
Skin.	VND	30	VND	20	VND	100	VND	10
		mg/kg bw/d		mg/kg bw/d		mg/kg bw/d		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.

##### CYCLOHEXANONE

Biological Values, ACGIH: 80 mg/L 1,2 Cyclohexanediol in urine (end of shift at end of workweek), 8 mg/L Cyclohexanol in urine (end of shift); GBR: 2 mmol Cyclohexanol/mol creatinine in urine (post shift) - DEU: 250 mg/L 1,2 Cyclohexanediol urin (Probenahmezeitpunkt: Expositionsende bzw. Schichtende; bei Langzeitexposition: nach mehreren vorangegangenen Schichten), 30 mg/L Cyclohexanol urin (Probenahmezeitpunkt: Expositionsende bzw. Schichtende) - ESP: 80 mg/L 1,2 Cyclohexanediol en orina (final de la semanalaboral), 8 mg/L Cyclohexanol en orina (final de la semanalaboral).

#### 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. 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

### SECTION 8. Exposure controls/personal 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 Directive 89/686/EEC 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 a hood visor or protective visor combined with airtight goggles (see standard EN 166).

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

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.

### SECTION 9. Physical and chemical properties.

#### 9.1. Information on basic physical and chemical properties.

Appearance	liquid
Colour	colourless
Odour	pungent
Odour threshold.	Not available.
pH.	7
Melting point / freezing point.	-31 °C.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	43 T ≤ 60 °C.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	1,3 % (V/V).
Upper explosive limit.	9,4 % (V/V).
Vapour pressure.	4 mmHg
Vapour density	Not available.
Relative density.	0,950
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.

Molecular weight.	98,140	
VOC (Directive 2010/75/EC) :	100,00 %	- 950,00 g/litre.
VOC (volatile carbon) :	73,36 %	- 696,96 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.

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

#### CYCLOHEXANONE

May condense under the effect of heat to form resinous compounds. Attacks various types of plastic.

#### 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.

#### CYCLOHEXANONE

Risk of explosion on contact with: hydrogen peroxide, nitric acid, heat, mineral acids. Can react violently with oxidising agents. Forms explosive mixtures with the air.

#### 10.4. Conditions to avoid.

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

#### CYCLOHEXANONE

Avoid exposure to sources of heat and naked flames.

#### 10.5. Incompatible materials.

Information not available.

#### 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.

### 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.

##### CYCLOHEXANONE

Acute oral toxicity, Symptoms: Stomach/intestinal disorders, Risk of aspiration upon vomiting, Aspiration may cause pulmonary oedema and pneumonitis - Acute inhalation toxicity/absorption, Symptoms: In high doses, Irritation symptoms in the respiratory tract - Acute dermal toxicity, absorption, Skin irritation, Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product - Eye irritation, Risk of corneal clouding.

##### ACUTE TOXICITY.

LC50 (Inhalation - vapours) of the mixture:	11,000 mg/l
LC50 (Inhalation - mists / powders) of the mixture:	Not classified (no significant component).
LD50 (Oral) of the mixture:	1540,000 mg/kg
LD50 (Dermal) of the mixture:	1100,000 mg/kg

##### CYCLOHEXANONE

LD50 (Oral).	1540 mg/kg Rat
LD50 (Dermal).	948 mg/kg Rabbit
LC50 (Inhalation).	32,65 mg/l/4h Rat

##### SKIN CORROSION / IRRITATION.

Causes skin irritation.

##### SERIOUS EYE DAMAGE / IRRITATION.

Causes serious eye damage.

##### RESPIRATORY OR SKIN SENSITISATION.

Does not meet the classification criteria for this hazard class.

##### GERM CELL MUTAGENICITY.

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

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.

### SECTION 12. Ecological information.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

#### 12.1. Toxicity.

##### CYCLOHEXANONE

LC50 - for Fish.

527 mg/l/96h Pimephales promelas

EC50 - for Crustacea.

> 100 mg/l/48h Daphnia magna

Chronic NOEC for Fish.

> 100 mg/l

#### 12.2. Persistence and degradability.

##### CYCLOHEXANONE

Solubility in water.

0,1 - 100 mg/l

Rapidly biodegradable.

#### 12.3. Bioaccumulative potential.

##### CYCLOHEXANONE

Partition coefficient: n-octanol/water.

0,86

#### 12.4. Mobility in soil.

##### CYCLOHEXANONE

Partition coefficient: soil/water.

1,18

#### 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.

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: 1915

#### 14.2. UN proper shipping name.

ADR / RID: CYCLOHEXANONE  
IMDG: CYCLOHEXANONE  
IATA: CYCLOHEXANONE

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

#### 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.

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

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.

German regulation on the classification of substances hazardous to water (VwVwS 2005).

WGK 1: Low hazard to waters

Substance listed in Annex 2.

### 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:

<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>H226</b>	Flammable liquid and vapour.
<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H318</b>	Causes serious eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	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
- 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

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

- 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:

02.