

## Safety Data Sheet

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

#### 1.1. Product identifier

Code: **U05185**  
Product name: **DESCAL H160**

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

Intended use: **Descaler and chemical cleaner.**  
Uses advised against: **Different uses than those intended.**

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

Name: **CENTRO DISTRIBUZIONE UTENSILI SCPA**  
Full address: **Via delle Gerole, 19**  
District and Country: **20867 CAPONAGO (MB)**  
**ITALY**  
tel. **+39 02 95746081**  
fax. **+ 39 02 95745182**

e-mail address of the competent person

responsible for the Safety Data Sheet

Product distribution by:

**info@cdu.net**  
**Centro Distribuzione Utensili Scpa**

#### 1.4. Emergency telephone number

For urgent inquiries refer to

**+39 02 95746081 during office hours 8.30-12.30 - 13.30-17.30**

### 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:

Skin corrosion, category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage, category 1	H318	Causes serious eye damage.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory 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:

**H314** Causes severe skin burns and eye damage.  
**H335** May cause respiratory irritation.

Precautionary statements:

**P260** Do not breathe dust / fume / gas / mist / vapours.  
**P264** Wash the skin thoroughly after handling.



## DESCAL H160

<b>P280</b>	Wear protective gloves/ protective clothing / eye protection / face protection.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
<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>P310</b>	Immediately call a POISON CENTER / doctor if you feel unwell.

**Contains:** HYDROCHLORIC ACID 30%  
PHOSPHORIC ACID 75%

'Restricted to professional and industrial users'.

### 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:

Identification	Conc. %	Classification 1272/2008 (CLP)
<b>HYDROCHLORIC ACID 30%</b>		
CAS 7647-01-0	$30 \leq x \leq 40$	Skin Corr. 1B H314, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: B
EC 231-595-7		
INDEX 017-002-01-X		
Reg. no. 01-2119484862-27		
<b>PHOSPHORIC ACID 75%</b>		
CAS 7664-38-2	$1 \leq x \leq 2$	Met. Corr. 1 H290, Skin Corr. 1B H314, Classification note according to Annex VI to the CLP Regulation: B
EC 231-633-2		
INDEX 015-011-00-6		
Reg. no. 01-2119485924-24		
<b>ETHANEDIOL</b>		
CAS 107-21-1	$0,1 \leq x \leq 0,297$	Acute Tox. 4 H302, STOT RE 2 H373
EC 203-473-3		
INDEX 603-027-00-1		
Reg. no. 01-2119456816-28		

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 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

**SKIN:** Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

**INGESTION:** Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

**INHALATION:** Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

### 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 for the doctor: symptomatically treatment.

**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).

**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. 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**

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after 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 in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany): 8A

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

Descaler and chemical cleaner.

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



## DESCAL H160

## 8.1. Control parameters

## Regulatory References:

BEL	Belgique	AR du 11/3/2002. La liste est mise à jour pour 2010
DEU	Deutschland	TRGS 900 (Fassung 4.11.2016) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
DNK	Danmark	Graensevaerdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
FIN	Suomi	HTP-arvot 2012. Haitallisiksi tunnetut pitoisuudet - Sosiaali- ja terveystieteiden tutkimuskeskus julkaisu 2012:5
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
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
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 7 czerwca 2017 r
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diaro da Republica I 26; 2012-02-06
ROU	România	Monitorul Oficial al României 44; 2012-01-19
EU	OEL EU	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 2017

## HYDROCHLORIC ACID 30%

Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
AGW	DEU	3	2	6	4
HTP	FIN			7,6	5
MAC	NLD	8		15	
TLV-ACGIH		5			

## PHOSPHORIC ACID 75%

Threshold Limit Value					
Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
VLEP	BEL	1		2	
AGW	DEU	2		4	INHAL
MAK	DEU	2		4	INHAL
TLV	DNK	1			
VLA	ESP	1		2	
HTP	FIN	1		2	
VLEP	FRA	1	0,2	2	0,5
WEL	GBR	1		2	
VLEP	ITA	1		2	
OEL	NLD	1		2	
NDS	POL	1		2	
OEL	EU	1		2	
TLV-ACGIH		1		3	

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

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Chronic local	Acute local	Acute systemic	Chronic systemic
Inhalation			0,73 mg/m3			2 mg/m3	1 mg/m3	



## DESCAL H160

## ETHANEDIOL

Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min				
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm			
MAK	DEU	26	10	52	20	SKIN		
TLV	DNK	26	10			SKIN		
VLA	ESP	52	20	104	40	SKIN		
HTP	FIN	50	20	100	40	SKIN		
VLEP	FRA	52	20	104	40	SKIN		
WEL	GBR	52	20	104	40			
VLEP	ITA	52	20	104	40	SKIN		
OEL	NLD	52		104		SKIN		
NDS	POL	15		50				
VLE	PRT	52	20	104	40	SKIN		
TLV	ROU	52	20	104	40	SKIN		
OEL	EU	52	20	104	40	SKIN		
TLV-ACGIH			25		50			
TLV-ACGIH				10		INHAL		
Predicted no-effect concentration - PNEC								
Normal value in fresh water				10		mg/l		
Normal value in marine water				1		mg/l		
Normal value for fresh water sediment				37		mg/kg		
Normal value for marine water sediment				3,7		mg/kg		
Normal value for water, intermittent release				10		mg/l		
Normal value of STP microorganisms				199,5		mg/l		
Normal value for the terrestrial compartment				1,53		mg/kg		
Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Chronic local	Acute local	Acute systemic	Chronic systemic
Inhalation	VND	7 mg/m <sup>3</sup>					35 mg/m <sup>3</sup>	VND
Skin			VND	53 mg/kg			VND	106 mg/kg

## 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.

## 8.2. Exposure controls

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

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

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

Provide an emergency shower with face and eye wash station.

## HAND PROTECTION

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

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

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

## SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see 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).

#### 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 E 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	clear liquid
Colour	blue
Odour	sweety
Odour threshold	Not available
pH	1,5
Melting point / freezing point	Not available
Initial boiling point	> 100 °C
Boiling range	Not available
Flash point	> 100 °C
Evaporation Rate	Not available
Flammability of solids and gases	not applicable
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not applicable
Upper explosive limit	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	1,060 - 1,080 Kg/l
Solubility	in water: total
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 available

### 9.2. Other information

VOC (Directive 2010/75/EC) :	0,30 %
VOC (volatile carbon) :	0,11 %

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

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

#### PHOSPHORIC ACID 75%

Avoid contact with: reducing agents, metals, water.

#### ETHANEDIOL

In the air absorbs moisture. Decomposes at temperatures above 200°C/392°F.

### 10.2. Chemical stability

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

### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

#### HYDROCHLORIC ACID 30%

Avoid contact with: strong alkalis, oxidising agents, reducing agents, metals.



May form: hydrogen.

PHOSPHORIC ACID 75%

Avoid exposure to: high temperatures.

ETHANEDIOL

Risk of explosion on contact with: perchloric acid. May react dangerously with: chlorosulphuric acid, sodium hydroxide, sulphuric acid, phosphorus pentasulphide, chromium (III) oxide, chromyl chloride, potassium perchlorate, potassium dichromate, sodium peroxide, aluminium. Forms explosive mixtures with: air.

#### 10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

HYDROCHLORIC ACID 30%

Avoid exposure to: high temperatures.

PHOSPHORIC ACID 75%

Avoid exposure to: high temperatures,

ETHANEDIOL

Avoid exposure to: sources of heat, naked flames.

#### 10.5. Incompatible materials

HYDROCHLORIC ACID 30%

Avoid contact with: strong alkalis, oxidising agents, reducing agents, metals.

PHOSPHORIC ACID 75%

Avoid contact with: ammonia, strong bases, metals.

#### 10.6. Hazardous decomposition products

PHOSPHORIC ACID 75%

Develops: toxic fumes.

ETHANEDIOL

May develop: hydroxyacetaldehyde, glyoxal, acetaldehyde, methane, carbon monoxide, hydrogen.

## 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

##### Metabolism, toxicokinetics, mechanism of action and other information

Information not available.

##### Information on likely routes of exposure

ETHANEDIOL

WORKERS: inhalation; contact with the skin.

POPULATION: inhalation of ambient air; contact with the skin of products containing the substance.

##### Delayed and immediate effects as well as chronic effects from short and long-term exposure

ETHANEDIOL

Ingestion initially stimulates the central nervous system; later replaced by a phase of depression. There may be kidney damage, with anuria and uremia. Over-exposure symptoms are: vomiting, drowsiness, difficulty in breathing, convulsions. The lethal dose for humans is approx. 1.4 ml/kg.

##### 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)



## DESCAL H160

## ETHANEDIOL

LD50 (Oral)	7712 mg/kg Rat
LD50 (Dermal)	> 3500 mg/kg Mouse
LC50 (Inhalation)	> 2,5 mg/l Rat

## HYDROCHLORIC ACID 30%

LD50 (Oral)	900 mg/kg Rabbit
LC50 (Inhalation)	1,68 mg/l/1h Rat

## PHOSPHORIC ACID 75%

LD50 (Oral)	2600 mg/kg Rat
LD50 (Dermal)	2740 mg/kg bw/d Rabbit

SKIN CORROSION / IRRITATION

Corrosive for the skin.

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

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class.

## ETHANEDIOL

Available studies have shown no carcinogenic potential. In a carcinogenicity study lasting two years, carried out by the US National Toxicology Program (NTP), in which ethylene glycol was administered in the feed, "no evidence of carcinogenic activity" in male and female B6C3F1 mice was observed (NTP, 1993).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class.

STOT - SINGLE EXPOSURE

May cause respiratory irritation.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class.

## SECTION 12. Ecological information

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

## ETHANEDIOL

LC50 - for Fish	72860 mg/l/96h Pimephales promelas
EC50 - for Crustacea	> 100 mg/l/48h Daphnia magna
Chronic NOEC for Fish	15380 mg/l Pimephales promelas
Chronic NOEC for Crustacea	8590 mg/l Ceriodaphnia sp.

PHOSPHORIC ACID 75%

LC50 - for Fish

75,1 mg/l/96h *Oryzias latipes*

EC50 - for Crustacea

> 100 mg/l/48h *Daphnia magna*

EC50 - for Algae / Aquatic Plants

> 100 mg/l/72h *Desmodesmus subspicatus*

## 12.2. Persistence and degradability

ETHANEDIOL

Solubility in water

1000 - 10000 mg/l

Rapidly degradable

HYDROCHLORIC ACID 30%

Solubility in water

Miscible

PHOSPHORIC ACID 75%

Solubility in water

Soluble

Degradability: information not available

## 12.3. Bioaccumulative potential

ETHANEDIOL

Partition coefficient: n-octanol/water

-1,36

HYDROCHLORIC ACID 30%

Partition coefficient: n-octanol/water

0,3

## 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

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: 3264

**14.2. UN proper shipping name**

ADR / RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID 30%; PHOSPHORIC ACID 75%)  
IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID 30%; PHOSPHORIC ACID 75%)  
IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID 30%; PHOSPHORIC ACID 75%)

**14.3. Transport hazard class(es)**

ADR / RID: Class: 8 Label: 8

IMDG: Class: 8 Label: 8

IATA: Class: 8 Label: 8

**14.4. Packing group**

ADR / RID, IMDG, IATA: II

**14.5. Environmental hazards**

ADR / RID: NO

IMDG: NO

IATA: NO

**14.6. Special precautions for user**

ADR / RID:	HIN - Kemler: 80 Special Provision: -	Limited Quantities: 1 L	Tunnel restriction code: (E)
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo: Pass.: Special Instructions:	Maximum quantity: 30 L Maximum quantity: 1 L A3, A803	Packaging instructions: 855 Packaging instructions: 851

**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: 16

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

Product

Point 3

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

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

**15.2. Chemical safety assessment**

No chemical safety assessment for the mixture was carried out.

**SECTION 16. Other information**

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

<b>Met. Corr. 1</b>	Substance or mixture corrosive to metals, category 1
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>H290</b>	May be corrosive to metals.
<b>H302</b>	Harmful if swallowed.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H318</b>	Causes serious eye damage.
<b>H335</b>	May cause respiratory 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
- 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

#### 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 / 03 / 08 / 09 / 10 / 11 / 12 / 15 / 16.