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<b>Descaler concentrate</b>	
	According to: Regulation (EC) 1907/2006

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

Trade name : Descaler concentrate  
 Synonyms : Art. 976760

Unique formula identifier (UFI) : W86X-88QW-300T-QQUV

### 1.2 Relevant identified uses and uses advised against

Relevant identified uses : Detergent  
 Uses advised against : No information available.

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

Supplier : Hendi BV, Innovatielaan 6, 6745 XW De Klomp, The Netherlands  
 tel: +31 (0)317 681040  
 info@hendi.eu  
 www.hendi.eu

### 1.4 Emergency telephone number : +49(0)160-92250872

## SECTION 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### CLP Regulation (EC 1272/2008)

Hazard categories:  
 Serious eye damage/eye irritation: Eye Irrit. 2  
 Hazard Statements:  
 Causes serious eye irritation.

### 2.2 Label elements

CLP Regulation (EC 1272/2008)

Pictogram(s) : GHS07



Signal word : Warning

Hazard statement(s) : H319 Causes serious eye irritation.

Precautionary statement(s) : P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P280 Wear protective gloves.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 If eye irritation persists: Get medical advice/attention.

### 2.3 Other hazards

: The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**
**3.1 Substance** : Not relevant

**3.2 Mixture:**

Chemical name	CAS number	EC number Index nr	Registration nr	%	Hazard statements
Citric acid monohydrate	5949-29-1	201-069-1	-	15-30	Eye Irrit. 2; H319
2-Propyn-1-ol, compd. with methyloxirane	38172-91-7	609-530-2	01-2119976291-33	1 - < 5	Acute Tox. 4, Eye Dam. 1; H302 H318
L-(+)-Lactic Acid	79-33-4	201-196-2	01-2119474164-39	< 1	Skin Irrit. 2, Eye Dam. 1; H315 H318

Full text of H and EUH statements: see section 16.

**Specific concentration limits and M-factors**

Chemical name	CAS number	EC number	%	Specific concentration limits and M-factors
L-(+)-Lactic Acid	79-33-4	201-196-2	< 1	Skin Irrit. 2; H315: $\geq 10 - 100$ Eye Dam. 1; H318: $\geq 3 - 100$ Eye Irrit. 2; H319: $\geq 1 - < 3$

**SECTION 4. FIRST AID MEASURES**
**4.1 Description of first aid measures**

- |                   |  |
|-------------------|--|
| General           | : Remove contaminated, saturated clothing immediately. Avoid contact with skin, eyes and clothes.  |
| Inhalation        | : Provide fresh air. Seek medical attention if problems persist. If victim is at risk of losing consciousness, position and transport on their side and consult a doctor |
| Contact with skin | : Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with: Water. In case of skin irritation, seek medical treatment.        |
| Contact with eyes | : If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.  |
| Ingestion         | : Do NOT induce vomiting. Let water be drunken in little sips (dilution effect). Seek medical attention immediately.   |

**4.2 Most important symptoms and effects, both acute and delayed**

No data available.

**4.3 Indication of any immediate medical attention and special treatment needed**

Symptomatic treatment (decontamination, vital functions), no known specific antidote.

**SECTION 5. FIREFIGHTING MEASURES**
**5.1 Extinguishing media**

- |                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | : Water spray jet / Alcohol resistant Foam / Carbon dioxide (CO <sub>2</sub> ) / Dry extinguishing powder / Extinguishing powder. Co-ordinate fire-fighting measures to the fire surroundings. |
| Unsuitable extinguishing media | : Full water jet.  |

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**5.2 Special hazards arising from the substance or mixture**

: Hazardous combustion products: Carbon dioxide (CO<sub>2</sub>), carbon monoxide, nitrogen oxide (NO<sub>x</sub>).

**5.3 Advice for firefighters**

: In case of fire: Wear self-contained breathing apparatus. Wear chemical protection suit. Do not breathe explosion and fire gases. Resume gases / vapors / fog with water spray.  
**Additional information:** Contaminated fire-fighting water must be collected separately. This may not end up in the sewer system or waste water stream. Waste processing according to national or regional legislation.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**
**6.1 Personal precautions, protective equipment & emergency procedures:**

Put on protection equipment and keep away unprotected persons. Avoid contact with skin and eyes.

**6.2 Environmental precautions**

: Larger quantities cannot be emptied into drains or the environment.

**6.3 Methods and material for containment and cleaning up**

: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

**6.4 Reference to other sections**

: For handling and storage – section 7.  
 For personal protection - section 8.  
 Disposal - section 13

**SECTION 7. HANDLING AND STORAGE**
**7.1 Precautions for safe handling**

: Advice on safe handling: Avoid contact with skin and eyes.  
Advice on protection against fire and explosion: No special precautionary measures are necessary.  
Further information on handling: Notice the directions for use on the label.

**7.2 Conditions for safe storage**

: Requirements for storage rooms and vessels: Store only in original container. Unsuitable materials for container: metal.  
 Information regarding storage with other substances or preparations:  
 Keep away from: food, drink, animal feed.

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

: DESCALERS

**7.3 Specific end use(s) : SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**8.1 Control parameters**

Additional advice on limit values: To date, no national critical limit values exist.

**8.2. Exposure controls**
**Protective and hygiene measures**

Avoid contact with skin, eyes and clothes. Take off immediately all contaminated clothing.  
 Wash hands before breaks and after work. Keep away from: food, beverages, feeding stuff.

**Eye/face protection**

Suitable eye protection: During filling or decanting.

**Hand protection**

Tested protective gloves are to be worn: Suitable material: PVC (Polyvinyl chloride). NR (Natural rubber (Caoutchouc), Natural latex). CR (polychloroprenes, Chloroprene rubber). NBR (Nitrile rubber). FKM (fluororubber). Breakthrough times and swelling characteristics of the material must be taken into consideration.

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**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required.

**Environmental exposure controls**

Do not allow uncontrolled leakage of product into the environment.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**
**9.1 Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless
Odour:	characteristic
pH-Value (at 20°C):	0,36

**Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Flash point:	not determined

**Flammability**

Solid:	not determined
Gas:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

**Auto-ignition temperature**

Solid:	not determined
Gas:	not determined

Vapour pressure:	not determined
Density (at 20°C):	1,128 g/cm <sup>3</sup>
Partition coefficient:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not determined
Vapour density:	not determined
Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined

**9.2. Other information**

Solid content: not determined.

**SECTION 10. STABILITY AND REACTIVITY**

**10.1 Reactivity** : When handled and stored in accordance with the regulations, no dangerous reactions occur.

**10.2 Chemical stability** : The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3 Possibility of hazardous reactions** : When handled and stored in accordance with the regulations, no dangerous reactions occur.

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**10.4 Conditions to avoid** : Protect against: frost.

**10.5 Incompatible materials** : When handled and stored in accordance with the regulations, no dangerous reactions occur.

**10.6 Hazardous decomposition products:** The product is chemically stable under recommended conditions of storage, use and temperature.

**SECTION 11. TOXICOLOGICAL INFORMATION**
**11.1 Information on toxicological effects**
**Toxicokinetic, metabolism and distribution**

No data available.

**Acute toxicity**

Based on available data, the classification criteria are not met.

There are no data on the preparation itself.

Chemical name Exposure route	CAS number	Dose	Species	Source	Method
2-Propyn-1-ol, compd. with methyloxirane	38172-91-7				
oral		ATE 500 mg/kg			
L-(+)-Lactic Acid	79-33-4				
oraal		LD50 3543 mg/kg	Rat	ECHA	OECD 401
dermaal		LD 50 > 2000 mg/kg	Rabbit	ECHA	

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Irritant effect on the eye: Irritant.

Irritant effect on the skin: irritant.

**Sensitizing effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**TOT- single exposure**

Based on available data, the classification criteria are not met.

**STOT- repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

There are no data on the preparation itself.

**SECTION 12. ECOLOGICAL INFORMATION**
**12.1 Toxicity** : No data available

Chemical name Aquatic toxicity	CAS number	Dose	[h] [d]	Species	Source	Method
L-(+)-Lactic Acid	79-33-4					
Acute fish toxicity		LC50 320 mg/l	96 h	Brachydanio rerio	MSDS	OECD 203
Acute algae toxicity		ErC50 3500 mg/l	72 h	Pseudokirchneriella subcapitata		OECD 201
Acute crustacea toxicity		EC50 250 mg/l	48 h	Daphnia magna	MSDS	OECD 202
Algae toxicity		NOEC 1900 mg/l	3 d		ECHA	
Crustacea toxicity		NOEC 180 mg/l	2 d		ECHA	

**12.2 Persistence and degradability** : The surfactants contained in this mixture comply with the biodegradability criteria as laid down in Regulation (EC) No 648/2004 on detergents. The product doesn't contribute to the AOX value of the water.

**12.3 Bio accumulative potential** : No data available.

**Partition coefficient n-octanol/water**

Chemical name	CAS number	Log Pow
L-(+)-Lactic Acid	79-33-4	-0,62

**12.4 Mobility in soil** : No data available.

**12.5 Results of PBT & vPvB assessment** : The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, Annex XIII.

**12.6. Other adverse effects** : No data available.

**Further information:** Avoid release to the environment.

**SECTION 13. DISPOSAL CONSIDERATIONS**
**13.1 Waste treatment methods** :

**Disposal recommendations**

According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

**Contaminated packaging**

Completely emptied packings can be re-cycled.

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## SECTION 14. TRANSPORT INFORMATION

### Land transport (ADR/RID)

- |                                   |   |
|-----------------------------------|---|
| 14.1. UN number:                  | No dangerous good in sense of these transport regulation. |
| 14.2. UN proper shipping name:    | No dangerous good in sense of these transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of these transport regulation. |
| 14.4. Packing group:              | No dangerous good in sense of these transport regulation. |

### Inland waterways transport (ADN)

- |                                   |   |
|-----------------------------------|---|
| 14.1. UN number:                  | No dangerous good in sense of these transport regulation. |
| 14.2. UN proper shipping name:    | No dangerous good in sense of these transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of these transport regulation. |
| 14.4. Packing group:              | No dangerous good in sense of these transport regulation. |

### Marine transport (IMDG)

- |                                   |   |
|-----------------------------------|---|
| 14.1. UN number:                  | No dangerous good in sense of these transport regulation. |
| 14.2. UN proper shipping name:    | No dangerous good in sense of these transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of these transport regulation. |
| 14.4. Packing group:              | No dangerous good in sense of these transport regulation. |

### Air transport (ICAO-TI/IATA-DGR)

- |                                   |   |
|-----------------------------------|---|
| 14.1. UN number:                  | No dangerous good in sense of these transport regulation. |
| 14.2. UN proper shipping name:    | No dangerous good in sense of these transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of these transport regulation. |
| 14.4. Packing group:              | No dangerous good in sense of these transport regulation. |

### 14.5. Environmental hazards

Environmentally hazardous: No

### 14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

## SECTION 15. REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulatory information

Restrictions on use (REACH, annex XVII):  
Entry 3

#### Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

#### National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

## SECTION 16. OTHER INFORMATION

### 16.1 Revision comments

A vertical line in the left margin indicates that there is a relevant amendment from the previous version.

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## 16.2 Abbreviations and acronyms used in the safety data sheet

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

## Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

## 16.3 References and sources for data : Safety data sheet manufacturer

## 16.4 Training advice

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training. Persons related to the transportation of the dangerous goods in compliance with the ADR Agreement should be properly trained within the scope of performed tasks (general training, on-the-job training and training related to the safety issues).

## 16.5 Other information and disclaimer

All information given in this Safety Data Sheet is exclusively related to the product described and is provided assuming that the product will be used in a way and for the purposes as stated by the manufacturer. The information is based on our present state of knowledge and will be reviewed regularly. This Safety Data Sheet has only been set up with the intention to describe the safety aspects of the product and therefore should not be construed as guaranteeing specific properties of the product of concern or its suitability for a particular application. It is the user's own responsibility to take the precautionary measures described and also to take care that this information is complete and adequate for the use of this product. It is recommended to pass through the information in this Safety Data Sheet, whenever necessary in an adapted form, to all staff and interested parties of concern.

- *Changes, printing and typesetting errors reserved.*