

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Mixture
Trade name : HADEX®
Product code : 0900-HDEX
Type of product : Chlorine-based disinfectant
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Intended for general public

Use of the substance/mixture : Disinfectant, for disinfection of drinking water systems, drinking water tanks and water installations.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

HATENBOER WATER
Mercuriusweg 8
3113 AR Schiedam - Netherlands
T +(31) 10 409 12 00
info@hatenboer-water.com - www.hatenboer-water.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 1 H318

Hazardous to the aquatic environment — Acute Hazard, Category 1 H400

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye damage.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS05

GHS09

Signal word (CLP) : Danger

Hazardous ingredients : sodium hypochlorite, solution ... % Cl active

Hazard statements (CLP) : H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H400 - Very toxic to aquatic life.

Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P280 - Wear protective gloves, eye protection.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a

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Safety Data Sheet

according to Regulation (EU) 2015/830

POISON CENTER/doctor
P321 - Specific treatment (see supplemental first aid instruction on this label)
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements : EUH031 - Contact with acids liberates toxic gas.

2.3. Other hazards

Other hazards not contributing to the classification : This mixture does not contain any components that can be considered as persistent, bioaccumulative and toxic (PBT), or as very persistent and very bioaccumulative (vPvB) on levels of 0,1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
sodium hypochlorite, solution ... % Cl active	(CAS-No.) 7681-52-9 (EC-No.) 231-668-3 (EC Index-No.) 017-011-00-1	4.4	Skin Corr. 1B, H314 Aquatic Acute 1, H400

Specific concentration limits:

Name	Product identifier	Specific concentration limits
sodium hypochlorite, solution ... % Cl active	(CAS-No.) 7681-52-9 (EC-No.) 231-668-3 (EC Index-No.) 017-011-00-1	(C >= 5) EUH031

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell. Rinse mouth out with water. Do not induce vomiting. Ingestion of large quantities: immediately to hospital. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after inhalation : Cough. Dry/sore throat. Irritation of the nasal mucous membranes. May cause irritation to the respiratory tract. Possible respiratory damage following repeated or prolonged inhalation.

Symptoms/effects after skin contact : Irritation. Red skin.

Symptoms/effects after eye contact : Serious damage to eyes. redness, itching, tears. Swelling. Permanent eye damage.

Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Chronic symptoms : Allergic skin rash. Fall of hair. Gastrointestinal complaints.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : (aqueous non combustible product).

Reactivity in case of fire : No data available.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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5.3. Advice for firefighters

- Precautionary measures fire : Keep upwind. Consider evacuation.
- Firefighting instructions : Cool containers / tanks with spray water if possible. Dilute combustible/toxic gases/vapours with water spray.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Wear eye/face protection. Wear recommended personal protective equipment.
- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. In case of hazardous fumes, wear autonomous breathing apparatus.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain leaking substance, pump over in suitable containers. Consult "Material-handling" to select material of containers. Dilute combustible/toxic gases/vapours with water spray.
- Methods for cleaning up : Take up liquid spill into absorbent material. Clean contaminated surfaces with an excess of water. Remove contaminated clothes.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.
- Heat and ignition sources : Heat sources.
- Information on mixed storage : Keep away from (strong) acids.
- Storage area : Store in a well-ventilated place. Store away from heat. Keep out of direct sunlight. Store in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information : Not determined

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

EN 374. EN 166.

Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR)				EN 374

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Safety Data Sheet

according to Regulation (EU) 2015/830

Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety goggles, Face shield			EN 166

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke when using this product. Store locked up. Keep out of the reach of children.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear.
Colour	: Yellow.
Odour	: Slightly irritating.
Odour threshold	: No data available
pH	: > 10
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1068 kg/m ³ 20°C
Solubility	: completely soluble.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: Oxidizing agent producing free radicals at room/elevated temperatures or by catalytic agent.
Explosive limits	: No data available

9.2. Other information

Additional information : Strong reaction with acid

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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10.2. Chemical stability

Stable under normal conditions. Decomposition starting from. 10 C°.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Reducing agents. Strong acids. Protect from sunlight. Combustible products.

10.5. Incompatible materials

Metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. When in contact with heavy metals, their compounds and their alloys, Sodium hypochlorite decomposes while oxygen will be formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

HADEX®	
LD50 oral rat	> 10000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 10.5 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: > 10

Serious eye damage/irritation : Causes serious eye damage.
pH: > 10

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Not classified

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LC50 fish 1	6 - 32 mg/l daphnia
LC50 fish 2	≥ 2.1 mg/l
LC50 other aquatic organisms 1	≥ 0.4 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

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Ecology - soil	Decomposes.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available



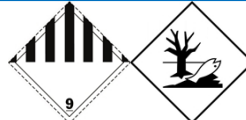
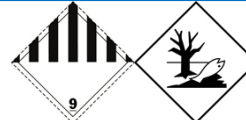
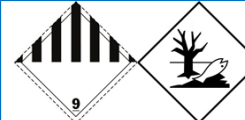
SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
 Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3082	3082	3082	3082	3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Environmentally hazardous substance, liquid, n.o.s.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport document description				
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, (E)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : M6
 Special provisions (ADR) : 274, 335, 601, 375
 Limited quantities (ADR) : 5I
 Excepted quantities (ADR) : E1
 Packing instructions (ADR) : P001, IBC03, LP01, R001
 Mixed packing provisions (ADR) : MP19
 Portable tank and bulk container instructions (ADR) : T4
 Portable tank and bulk container special provisions (ADR) : TP1, TP29
 Tank code (ADR) : LGBV
 Vehicle for tank carriage : AT
 Transport category (ADR) : 3
 Special provisions for carriage - Packages (ADR) : V12
 Special provisions for carriage - Loading, unloading and handling (ADR) : CV13
 Hazard identification number (Kemler No.) : 90

Orange plates

:



Tunnel restriction code (ADR)

: E

- Transport by sea

Special provisions (IMDG) : 274, 335, 969
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
Special packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP2, TP29
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964
PCA max net quantity (IATA) : 450L
CAO packing instructions (IATA) : 964
CAO max net quantity (IATA) : 450L
Special provisions (IATA) : A97, A158, A197
ERG code (IATA) : 9L

- Inland waterway transport

Classification code (ADN) : M6
Special provisions (ADN) : 274, 335, 375, 601
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : M6
Special provisions (RID) : 274, 335, 375, 601
Limited quantities (RID) : 5L
Excepted quantities (RID) : E1
Packing instructions (RID) : P001, IBC03, LP01, R001
Special packing provisions (RID) : PP1
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T4
Portable tank and bulk container special provisions (RID) : TP1, TP29
Tank codes for RID tanks (RID) : LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE8
Hazard identification number (RID) : 90

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	sodium hypochlorite, solution ... % Cl active - sodium hypochlorite, solution ... % Cl active
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	HADEX® - sodium hypochlorite, solution ... % Cl active - HADEX®
3(c) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1	HADEX® - sodium hypochlorite, solution ... % Cl active

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Other information, restriction and prohibition : CTGB (NL): 9574 N. regulations

15.1.2. National regulations

NIPH approved for use with potable water offshore

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
EUH031	Contact with acids liberates toxic gas.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product