

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/12/2015

Reviewed on 03/12/2015

* 1 Identification

- **Product identifier**
- **Trade name: Esdogen Bleach**
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Activated concentrate for oxygen bleaching for textiles made of cotton and synthetics. For use in the ESDOGEN system.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
- **Manufacturer:**
Chemische Fabrik Kreussler & Co. GmbH
Postfach 120454
D-65082 Wiesbaden
- **Supplier:**
Kreussler Inc., 6103 Johns Road Suit 7, Tampa, FL 33634,
Phone 813-884-1499, Fax 813-884-1599,
Internet: www.kreussler.com, e-mail: office-tampa@kreussler.com
- **Information department:**
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- **Emergency telephone number:** +49 (0) 611 9271-0

* 2 Hazard(s) identification

- **Classification of the substance or mixture**

Org. Perox. EF	H242	Heating may cause a fire.
Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.
Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
STOT SE 3	H335	May cause respiratory irritation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 - Corrosive
Causes burns.
 - Harmful
Harmful by inhalation and if swallowed.
 - Oxidizing
Contact with combustible material may cause fire.
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS09

· **Signal word** Danger· **Hazard-determining components of labeling:**hydrogen peroxide solution
peracetic acid· **Hazard statements**Heating may cause a fire.
May be corrosive to metals.
Harmful if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Very toxic to aquatic life with long lasting effects.· **Precautionary statements**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep only in original container.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin: Wash with plenty of soap and water.
IF exposed or concerned: Call a poison center/doctor.· **Classification system:**· **NFPA ratings (scale 0 - 4)**Health = 3
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.

· **HMIS-ratings (scale 0 - 4)**HEALTH 3 Health = 3
FIRE 3 Fire = 3
REACTIVITY 0 Reactivity = 0· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

* **3 Composition/information on ingredients**· **Chemical characterization: Mixtures**· **Description:** Mixture of the substances listed below with nonhazardous additions.· **Dangerous components:**

7722-84-1	hydrogen peroxide solution	C R35; Xn R20/22; O R8 R5	30-50%
64-19-7	acetic acid	C R35 R10	1.0-5.0%
79-21-0	peracetic acid	C R35; Xn R20/21/22; O R7; N R50 R10	1.0-5.0%

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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Call a doctor immediately.
Rinse opened eye for several minutes under running water.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Danger** Danger of gastric perforation.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** organic compounds
- **Special hazards arising from the substance or mixture**
If involved in fire, may decompose yielding oxygen.
Risk of overpressure and burst due to decomposition in confined spaces and pipes.
Release of oxygen may support combustion.
In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely. Keep away from heat.
If necessary:
In case of fire cool the containers that are at risk with water or dilute with water (flooding).
- **Advice for firefighters**
- **Protective equipment:** Wear fully protective suit.
- **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Product does not burn

* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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* 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - Protect from heat.
 - Protect against electrostatic charges.
 - Oxidizing anorganic peroxygene compound.
 - Contact with inflammable materials can cause ignition.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Provide acid-resistant floor.
 - Suitable material for receptacles and pipes: steel or stainless steel.
 - Unsuitable material for receptacle: aluminium.
- **Information about storage in one common storage facility:**
 - Store away from reducing agents.
 - Do not store together with alkalis (caustic solutions).
 - Do not store together with metal salts.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Store receptacle in a well ventilated area.
 - Do not gas tight seal receptacle.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7722-84-1 hydrogen peroxide solution (30-50%)

PEL	Long-term value: 1.4 mg/m ³ , 1 ppm
REL	Long-term value: 1.4 mg/m ³ , 1 ppm
TLV	Long-term value: 1.4 mg/m ³ , 1 ppm

64-19-7 acetic acid (1.0-5.0%)

PEL	Long-term value: 25 mg/m ³ , 10 ppm
REL	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm

79-21-0 peracetic acid (1.0-5.0%)

TLV	Short-term value: 1.24* mg/m ³ , 0.4* ppm *inhalable fraction + vapor
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - The usual precautionary measures for handling chemicals should be followed.
 - Do not eat, drink, smoke or sniff while working.
 - Ensure that washing facilities are available at the work place.
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.

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Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Filter ABEK-P2

- **Protection of hands:**



Protective gloves

- **Material of gloves**

PVC or PE gloves

Recommended thickness of the material: ≥ 0.4 mm

- **Not suitable are gloves made of the following materials:**

Leather gloves

Strong gloves

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Color:	Colorless
Odor:	Pungent

- **pH-value at 20 °C (68 °F):** 1

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

- **Flash point:** Not applicable.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

- **Density at 20 °C (68 °F):** 1.09 g/cm³ (9.096 lbs/gal)

- **Solubility in / Miscibility with**

Water: Fully miscible.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

- **Solvent content:**

Organic solvents: 0.0 %

- **Other information** No further relevant information available.

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions**
 - Reacts with alkali (lyes).
 - Reacts with flammable substances.
 - Corrodes copper and brass.
 - Reacts with organic substances.
 - Reacts with catalysts.
 - Acts as an oxidizing agent on organic materials such as wood, paper and fats.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Corrosive gases/vapors

* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

64-19-7 acetic acid

Oral	LD-50	3310 mg/kg (rat)
Dermal	LD-50	1060 mg/kg (bunny)

79-21-0 peracetic acid

Oral	LD-50	314 mg/kg (rat)
Dermal	LD-50	1912 mg/kg (rabbit)
Inhalative	LC-50/4 h	0.49 mg/m ³ (rat)

- **Primary irritant effect:**
 - **on the skin:** Caustic effect on skin and mucous membranes.
 - **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7722-84-1 | hydrogen peroxide solution

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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

* 12 Ecological information

- **Toxicity**

· **Aquatic toxicity:**

79-21-0 peracetic acid

EC-50 3 h | 5.1 mg/l (Belebtschlamm)

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EC-50 48h	0.5-1.1 mg/l (Daphnia magna)
IC-50 120h	0.18 mg/l (Selenastrum capricomutum) (US-EPA-Methode)
LC-50 96h	1-2 mg/l (Oncorhynchus mykiss)
	11 mg/l (Pleuronectes platessa)
NOEC (21) d	0.05 mg/l (Daphnia magna) (OECD 211)

- **Persistence and degradability** No further relevant information available.
- **Other information:** abiotic degradation through hydrolysis and reduction.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
The product may not be released into the environment without control.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with local, state, and federal Regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

* 14 Transport information

· UN-Number	
· DOT, ADR, IMDG, IATA	UN3149
· UN proper shipping name	
· DOT	Hydrogen peroxide and peroxyacetic acid mixtures, stabilized
· ADR	3149 Hydrogen peroxide and peroxyacetic acid mixtures, stabilized, ENVIRONMENTALLY HAZARDOUS
· IMDG	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED, MARINE POLLUTANT
· IATA	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED
· Transport hazard class(es)	
· DOT	
· Class	5.1 Oxidizing substances
· Label	5.1, 8
· ADR	
· Class	5.1 Oxidizing substances
· Label	5.1+8

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· IMDG	
· Class	5.1 Oxidizing substances
· Label	5.1/8
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· IATA	
· Class	5.1 Oxidizing substances
· Label	5.1 (8)
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	Yes
	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Oxidizing substances
· Danger code (Kemler):	58
· EMS Number:	F-H,S-Q
· Segregation groups	Peroxides
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 5 L
· Remarks:	Special marking with the symbol (fish and tree).
<hr style="border-top: 1px dashed #000;"/>	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<hr style="border-top: 1px dashed #000;"/>	
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN3149, Hydrogen peroxide and peroxyacetic acid mixtures, stabilized, ENVIRONMENTALLY HAZARDOUS, 5.1 (8), II

* 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

7722-84-1 | hydrogen peroxide solution

79-21-0 | peracetic acid

· Section 313 (Specific toxic chemical listings):

79-21-0 | peracetic acid

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

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· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		
· Chemicals known to cause reproductive toxicity for males:		
None of the ingredients is listed.		
· Chemicals known to cause developmental toxicity:		
None of the ingredients is listed.		
· Carcinogenicity categories		
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· TLV (Threshold Limit Value established by ACGIH)		
7722-84-1	hydrogen peroxide solution	A3
· MAK (German Maximum Workplace Concentration)		
7722-84-1	hydrogen peroxide solution	4
79-21-0	peracetic acid	3B
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		
· Canadien Substances Listings:		
· Canadien Domestic Substances List (DSL):		
All ingredients are listed.		
· Canadien Ingredient disclosure list (limit 0.1%)		
All ingredients are listed.		
· Canadien Ingredient disclosure list (limit 1%)		
7722-84-1	hydrogen peroxide solution	
64-19-7	acetic acid	
79-21-0	peracetic acid	

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS05 GHS07 GHS09

· **Signal word** Danger· **Hazard-determining components of labeling:**hydrogen peroxide solution
peracetic acid· **Hazard statements**Heating may cause a fire.
May be corrosive to metals.
Harmful if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Very toxic to aquatic life with long lasting effects.· **Precautionary statements**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep only in original container.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin: Wash with plenty of soap and water.
IF exposed or concerned: Call a poison center/doctor.

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- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
II	1,0-5,0

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

The information of Items 4 through 8 and 10 through 12 partially refers not to the use and the proper application of the product (see Directions for Use/Product Information) but to the release of larger quantities in the case of accidents and irregularities.

The information exclusively describes the safety requirements of the product(s) and is based on the present state of our experience.

Non-ionic tensides can have varying characteristics and classifications despite same CAS-No.

- **Department issuing SDS:**

Departent TQM

Herr Heiko Schmidt

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- **Contact:** Herr Heiko Schmidt

- **Date of preparation / last revision** 03/12/2015 / 16

- **Abbreviations and acronyms:**

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Org. Perox. EF: Organic Peroxides, Types E, F

Met. Corr.1: Corrosive to metals, Hazard Category 1

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

- *** Data compared to the previous version altered.**