

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 29.05.2013

Version 19.1

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

### 1.1 Product identifier

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO  
REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

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

Identified uses Reagent for analysis  
In compliance with the conditions described in the annex to this safety data sheet.

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0  
Responsible Department EQ-RS \* e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number Please contact the regional company representation in your country.

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302  
Serious eye damage, Category 1, H318  
For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Xn	Harmful	R22
Xi	Irritant	R41

For the full text of the R-phrases mentioned in this Section, see Section 16.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H302 Harmful if swallowed.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

H318 Causes serious eye damage.

*Precautionary statements*

Prevention

P280 Wear eye protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H318 Causes serious eye damage.


*Precautionary statements*

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

**Labelling (67/548/EEC or 1999/45/EC)**

*Symbol(s)*  Xn Harmful

*R-phrase(s)* 22-41 Harmful if swallowed. Risk of serious damage to eyes.

*S-phrase(s)* 26-39 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

**2.3 Other hazards**

None known.

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**SECTION 3. Composition/information on ingredients**

Chemical nature Aqueous solution

**3.1 Substance**

not applicable

**3.2 Mixture**

**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No. Registration number Classification

hydrogen peroxide (>= 25 % - < 35 %)

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

7722-84-1 01-2119485845-22- Oxidising liquid, Category 1, H271

XXXX Acute toxicity, Category 4, H332

Acute toxicity, Category 4, H302

Skin corrosion, Category 1A, H314

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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For the full text of the H-Statements mentioned in this Section, see Section 16.

**Hazardous components (1999/45/EC)**

*Chemical Name (Concentration)*

CAS-No.	Classification
hydrogen peroxide (>= 25 % - < 35 % )	
7722-84-1	R5
	O, Oxidising; R8
	Xn, Harmful; R20/22
	C, Corrosive; R35

For the full text of the R-phrases mentioned in this Section, see Section 16.

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**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

Dizziness, Unconsciousness, Diarrhoea, Nausea, Vomiting, Headache, Convulsions, muscle twitching, insomnia, shock, Irritation and corrosion, conjunctivitis  
Risk of serious damage to eyes.

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

No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.

Has a fire-promoting effect due to release of oxygen.

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

Do not empty into drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers*

Close containers in such a way to enable internal pressure to escape (e.g. excess pressure valve).

No metal containers.

*Storage conditions*

Tightly closed. Protected from light. Do not store near combustible materials.

Store at +5°C to +30°C.

### 7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

*hydrogen peroxide (7722-84-1)*

Worker DNEL, acute	Local effects	inhalation	3 mg/m <sup>3</sup>
Worker DNEL, longterm	Local effects	inhalation	1,4 mg/m <sup>3</sup>
Consumer DNEL, acute	Local effects	inhalation	1,93 mg/m <sup>3</sup>

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

Consumer DNEL, Local effects inhalation 0,21 mg/m<sup>3</sup>  
longterm

**Predicted No Effect Concentration (PNEC)**

*hydrogen peroxide (7722-84-1)*

PNEC Fresh water	0,0126 mg/l
PNEC Marine water	0,0126 mg/l
PNEC Aquatic intermittent release	0,0138 mg/l
PNEC Sewage treatment plant	4,66 mg/l
PNEC Fresh water sediment	0,47 mg/kg
PNEC Marine sediment	0,47 mg/kg
PNEC Soil	0,0023 mg/kg

**8.2 Exposure controls**

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Eye/face protection*

Tightly fitting safety goggles

*Hand protection*

full contact:

Glove material: natural latex  
Glove thickness: 0,6 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 706 Lapren® (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

*Other protective equipment*

protective clothing

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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*Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: filter NO

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not empty into drains.

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**SECTION 9. Physical and chemical properties**

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

Form	liquid
Colour	colourless
Odour	slight
Odour Threshold	No information available.
pH	2 - 4 at 20 °C
Melting point	-26 °C
Boiling point/boiling range	107 °C at 1.013 hPa
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	ca.18 hPa at 20 °C
Relative vapour density	No information available.
Relative density	1,11 g/cm <sup>3</sup> at 20 °C
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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Decomposition temperature	> 100 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	Oxidising potential

### 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

heat-sensitive

Sensitivity to light

*Stabilizer*

2,6-Pyridinedicarboxylic acid

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Risk of ignition or formation of inflammable gases or vapours with:

hydrazine and derivatives, hydrides, combustible substances, Ether, anhydrides, Oxidizing agents, Organic Substances, peroxi compounds, permanganates, organic solvent, organic nitro compounds, brass, Alkali metals, alkali salts, Alkaline earth metals, Metals, metallic oxides, metallic salts, nonmetals, nonmetallic oxides, Aldehydes, Alcohols, Amines, Ammonia, acids, strong alkalis, Acetaldehyde, Acetone, Activated charcoal, anilines, Lead, Powdered metals, acetic acid, Acetic anhydride, Potassium, iodides, potassium permanganate, Methanol, sodium, oils, phosphorus, Oxides of phosphorus, conc. sulfuric acid, Heavy metals

silver, in powder form

alkali hydroxides, with, Heavy metals

vinyl acetate, with, Catalyst

Exothermic reaction with:

alkali hydroxides, Metals, Nitric acid, zinc oxide, metallic salts

phenol, with, metal catalysts

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

no information available

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

absorption

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate: 1.667 mg/kg

Calculation method

##### *Acute inhalation toxicity*

Symptoms: Possible damages:, mucosal irritations

Acute toxicity estimate: > 20 mg/l; 4 h ; vapour

Calculation method

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

After long-term exposure to the chemical: Causes skin burns.

##### *Eye irritation*

conjunctivitis

Mixture causes serious eye damage.

##### *Sensitisation*

This information is not available.

##### *Germ cell mutagenicity*

This information is not available.

##### *Carcinogenicity*

This information is not available.

##### *Reproductive toxicity*

This information is not available.

##### *Teratogenicity*

This information is not available.

##### *Specific target organ toxicity - single exposure*

This information is not available.

##### *Specific target organ toxicity - repeated exposure*

This information is not available.

##### *Aspiration hazard*

This information is not available.

### 11.2 Further information

Systemic effects:

Headache, Dizziness, Nausea, Vomiting, Diarrhoea, insomnia, muscle twitching, Convulsions, Unconsciousness, shock

Handle in accordance with good industrial hygiene and safety practice.

#### Components

*hydrogen peroxide*



SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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*Acute oral toxicity*

Acute toxicity estimate: 500,1 mg/kg  
Expert judgement

*Acute inhalation toxicity*

Acute toxicity estimate: 11,1 mg/l; vapour  
Expert judgement

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**SECTION 12. Ecological information**

**Mixture**

**12.1 Toxicity**

No information available.

**12.2 Persistence and degradability**

*Biodegradability*

Readily biodegradable.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

*Additional ecological information*

No interference with wastewater treatment plants are to be expected when used properly.  
Discharge into the environment must be avoided.

**Components**

*hydrogen peroxide*

*Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 16,4 mg/l; 96 h (IUCLID)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 2,3 mg/l; 48 h (ECOTOX Database)

NOEC Daphnia magna (Water flea): 0,63 mg/l; 21 d (External MSDS)

*Toxicity to algae*

IC50 Pseudokirchneriella subcapitata (green algae): 5,7 mg/l; 72 h (ECOTOX Database)

Growth rate NOEC Skeletonema costatum: 0,63 mg/l; 72 h (External MSDS)

*Toxicity to bacteria*

static test EC50 activated sludge: 466 mg/l; 30 min  
OECD Test Guideline 209

static test EC50 activated sludge: > 1.000 mg/l; 3 h  
OECD Test Guideline 209

*Biodegradability*

Readily biodegradable.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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**SECTION 13. Disposal considerations**

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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**SECTION 14. Transport information**

**Land transport (ADR/RID)**

14.1 UN number UN 2014  
14.2 Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION  
14.3 Class 5.1 (8)  
14.4 Packing group II  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes  
Tunnel restriction code E

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

14.1 UN number UN 2014  
14.2 Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION  
14.3 Class 5.1 (8)  
14.4 Packing group II  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes  
**Not permitted for transport**

**Sea transport (IMDG)**

14.1 UN number UN 2014  
14.2 Proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION  
14.3 Class 5.1 (8)  
14.4 Packing group II  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes  
EmS F-H S-Q

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

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**SECTION 15. Regulatory information**

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

*EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Directive 96/82/EC does not apply

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SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that not regulated  
deplete the ozone layer

Regulation (EC) No 850/2004 of the European not regulated  
Parliament and of the Council of 29 April 2004 on  
persistent organic pollutants and amending  
Directive 79/117/EEC

Regulation (EC) No 689/2008 concerning the export not regulated  
and import of dangerous chemicals

Substances of very high concern (SVHC) This product does not contain substances of very high concern above the respective regulatory limit (> 0.1 % (w/w) Regulation (EC) No 1907/2006 (REACH), Article 57).

*National legislation*

Storage class 5.1B

## 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H271 May cause fire or explosion; strong oxidiser.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.

### Full text of R-phrases referred to under sections 2 and 3

R 5 Heating may cause an explosion.  
R 8 Contact with combustible material may cause fire.  
R20/22 Harmful by inhalation and if swallowed.  
R22 Harmful if swallowed.  
R35 Causes severe burns.  
R41 Risk of serious damage to eyes.

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### Regional representation

This information is given on the authorised Safety Data Sheet for your country.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

SAFETY DATA SHEET – Annex  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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**EXPOSURE SCENARIO 1 (Industrial use)**

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**1. Industrial use (Reagent for analysis)**

**Sectors of end-use**

*SU 3* Industrial uses: Uses of substances as such or in preparations at industrial sites  
*SU 9* Manufacture of fine chemicals  
*SU 10* Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

**Chemical product category**

*PC21* Laboratory chemicals

**Process categories**

*PROC1* Use in closed process, no likelihood of exposure  
*PROC2* Use in closed, continuous process with occasional controlled exposure  
*PROC3* Use in closed batch process (synthesis or formulation)  
*PROC4* Use in batch and other process (synthesis) where opportunity for exposure arises  
*PROC5* Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)  
*PROC8a* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities  
*PROC8b* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities  
*PROC9* Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
*PROC10* Roller application or brushing  
*PROC14* Production of preparations or articles by tableting, compression, extrusion, pelletisation  
*PROC15* Use as laboratory reagent

**Environmental Release Categories**

*ERC1* Manufacture of substances  
*ERC2* Formulation of preparations  
*ERC4* Industrial use of processing aids in processes and products, not becoming part of articles  
*ERC6a* Industrial use resulting in manufacture of another substance (use of intermediates)  
*ERC6b* Industrial use of reactive processing aids

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**2. Contributing scenarios: Operational conditions and risk management measures**

**2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a, ERC6b**

**Amount used**

Annual amount per site 1010 t  
Remarks (refers to pure substance)

**Other given operational conditions affecting environmental exposure**

Number of emission days per year 360  
Emission or Release Factor: Air 0,10 %  
Emission or Release Factor: Water 0,50 %  
Emission or Release Factor: Soil 0,10 %

**Technical conditions and measures / Organizational measures**

Air Use of air emission abatement equipments.  
Water Biological waste water treatment plant

**Conditions and measures related to municipal sewage treatment plant**

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The Safety Data Sheets for catalogue items are available at [www.merck-chemicals.com](http://www.merck-chemicals.com)

SAFETY DATA SHEET – Annex  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2.000 m3/d
Percentage removed from waste water	97 %

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## 2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8b, PROC15

### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 70 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 70 °C

### Frequency and duration of use

Frequency of use	8 hours/day
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### Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)
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### Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374) and eye protection.

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## 2.3 Contributing scenario controlling worker exposure for: PROC4

### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 70 %.
Physical Form (at time of use)	Medium volatile liquid
Process Temperature	< 70 °C

### Frequency and duration of use

Frequency of use	8 hours/day
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### Other operational conditions affecting workers exposure

Outdoor / Indoor	Indoor with LEV and good general ventilation
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### Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

### Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves (tested to EN374) and eye protection.

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## 2.4 Contributing scenario controlling worker exposure for: PROC5, PROC8a, PROC9

### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 70 %.
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SAFETY DATA SHEET – Annex  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

Physical Form (at time of use) Medium volatile liquid  
Process Temperature < 70 °C

**Frequency and duration of use**

Frequency of use < 4 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with LEV and enhanced general ventilation

**Organisational measures to prevent /limit releases, dispersion and exposure**

Avoid carrying out operation for more than 4 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374) and eye protection.

**2.5 Contributing scenario controlling worker exposure for: PROC10, PROC14**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 70 %.  
Physical Form (at time of use) Medium volatile liquid  
Process Temperature < 70 °C

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with LEV and enhanced general ventilation

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374) and eye protection.

**3. Exposure estimation and reference to its source**

**Environment**

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC1		Fresh water	0,61	EUSES
2.1	ERC2		Fresh water	0,61	EUSES
2.1	ERC4		Fresh water	0,61	EUSES
2.1	ERC6a		Fresh water	0,61	EUSES
2.1	ERC6b		Fresh water	0,61	EUSES

**Workers**

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.2	PROC1	longterm, inhalative, systemic	< 0,01	ECETOC TRA, modified
2.2	PROC2	longterm, inhalative, systemic	0,35	ECETOC TRA, modified
2.2	PROC3	longterm, inhalative, systemic	0,71	ECETOC TRA, modified
2.2	PROC8b	longterm, inhalative, systemic	0,89	ECETOC TRA, modified
2.2	PROC15	longterm, inhalative, systemic	0,71	ECETOC TRA, modified

SAFETY DATA SHEET – Annex  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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2.3	PROC4	longterm, inhalative, systemic	0,99	ECETOC TRA, modified
2.4	PROC5	longterm, inhalative, systemic	0,64	ECETOC TRA, modified
2.4	PROC8a	longterm, inhalative, systemic	0,64	ECETOC TRA, modified
2.4	PROC9	longterm, inhalative, systemic	0,64	ECETOC TRA, modified
2.5	PROC10	longterm, inhalative, systemic	0,91	ECETOC TRA, modified
2.5	PROC14	longterm, inhalative, systemic	0,91	ECETOC TRA, modified

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The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

For (other) local effects risk management measures are based on qualitative risk characterisation.

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#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

For scaling of worker exposure assessments performed with ECETOC TRA, please consult the Merck tool SciDeEx® at [www.merck-chemicals.com](http://www.merck-chemicals.com).



SAFETY DATA SHEET – Annex  
according to Regulation (EC) No. 1907/2006

Catalogue No. 107209  
Product name Hydrogen peroxide 30% (Perhydrol®) for analysis EMSURE® ACS,ISO

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**EXPOSURE SCENARIO 2 (Professional use)**

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**1. Professional use (Reagent for analysis)**

**Sectors of end-use**

*SU 22* Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Chemical product category**

*PC21* Laboratory chemicals

**Process categories**

*PROC15* Use as laboratory reagent

**Environmental Release Categories**

*ERC2* Formulation of preparations

*ERC4* Industrial use of processing aids in processes and products, not becoming part of articles

*ERC6a* Industrial use resulting in manufacture of another substance (use of intermediates)

*ERC6b* Industrial use of reactive processing aids

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**2. Contributing scenarios: Operational conditions and risk management measures**

**2.1 Contributing scenario controlling environmental exposure for: ERC2, ERC4, ERC6a, ERC6b**

**Amount used**

Annual amount per site 1010 t  
Remarks (refers to pure substance)

**Other given operational conditions affecting environmental exposure**

Number of emission days per year 360  
Emission or Release Factor: Air 0,10 %  
Emission or Release Factor: Water 0,50 %  
Emission or Release Factor: Soil 0,10 %

**Technical conditions and measures / Organizational measures**

Air Use of air emission abatement equipments.  
Water Biological waste water treatment plant

**Conditions and measures related to municipal sewage treatment plant**

Type of Sewage Treatment Plant Municipal sewage treatment plant  
Flow rate of sewage treatment plant effluent 2.000 m3/d  
Percentage removed from waste water 97 %

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**2.2 Contributing scenario controlling worker exposure for: PROC15**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 70 %.  
Physical Form (at time of use) Medium volatile liquid  
Process Temperature < 70 °C

**Frequency and duration of use**

Frequency of use 8 hours/day

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**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with LEV and good general ventilation

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374) and eye protection.

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**3. Exposure estimation and reference to its source**

**Environment**

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC2		Fresh water	0,61	EUSES
2.1	ERC4		Fresh water	0,61	EUSES
2.1	ERC6a		Fresh water	0,61	EUSES
2.1	ERC6b		Fresh water	0,61	EUSES

**Workers**

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.2	PROC15	longterm, inhalative, systemic	0,99	ECETOC TRA, modified

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

For (other) local effects risk management measures are based on qualitative risk characterisation.

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