

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 12.04.2019

Version 1.0

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

#### 1.1 Product identifier

Catalogue No.	D44002
Product name	Catalase Assay Kit
	Formaldehyde Standard (CN 219265)
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	Biochemical research/analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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#### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

#### 1.4 Emergency telephone number

**Please contact the regional company representation in your country.**

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### SECTION 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302  
Skin irritation, Category 2, H315  
Eye irritation, Category 2, H319  
Skin sensitisation, Category 1, H317  
Germ cell mutagenicity, Category 2, H341  
Carcinogenicity, Category 1B, H350  
Specific target organ toxicity - single exposure, Category 3, Respiratory system, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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Catalogue No.  
Product name

D44002  
Catalase Assay Kit  
Formaldehyde Standard (CN 219265)

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## 2.2 Label elements

### Labelling.(REGULATION (EC) No 1272/2008)

#### Hazard pictograms



Signal word  
Danger

#### Hazard statements

H350 May cause cancer.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H341 Suspected of causing genetic defects.

#### Precautionary statements

##### Prevention

P201 Obtain special instructions before use.  
P280 Wear protective gloves.

##### Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Restricted to professional users.

### Reduced labelling (≤125 ml)

#### Hazard pictograms



Signal word  
Danger

#### Hazard statements

H350 May cause cancer.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.

#### Precautionary statements

P201 Obtain special instructions before use.  
P280 Wear protective gloves.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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Product name Catalase Assay Kit  
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Contains: formaldehyde

## 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
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formaldehyde ( $\geq 10\%$  -  $< 20\%$ )

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

50-00-0	01-2119488953- 20-XXXX	
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Acute toxicity, Category 3, H301  
Acute toxicity, Category 3, H331  
Acute toxicity, Category 3, H311  
Skin corrosion, Category 1B, H314  
Skin sensitisation, Category 1, H317  
Germ cell mutagenicity, Category 2, H341  
Carcinogenicity, Category 1B, H350

For the full text of the H-Statements 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. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

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

irritant effects, Allergic reactions, Cough, Shortness of breath

### 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*

Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

*Unsuitable extinguishing media*

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

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

Mixture with combustible ingredients.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 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*

Remove container from danger zone and cool with water. 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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. 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 let product enter 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Render harmless: Treatment with excess sodium hydrogen sulfite solution.

### 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.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### *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

#### *Storage conditions*

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### **Derived No Effect Level (DNEL)**

#### *formaldehyde (50-00-0)*

Worker DNEL, longterm	Systemic effects	inhalation	9 mg/m <sup>3</sup>
Worker DNEL, longterm	Local effects	inhalation	0,5 mg/m <sup>3</sup>
Worker DNEL, acute	Local effects	inhalation	1 mg/m <sup>3</sup>
Worker DNEL, longterm	Systemic effects	dermal	240 mg/kg Body weight
Worker DNEL, longterm	Local effects	dermal	0,037 mg/cm <sup>2</sup>
Consumer DNEL, longterm	Systemic effects	inhalation	3,2 mg/m <sup>3</sup>
Consumer DNEL, longterm	Local effects	inhalation	0,1 mg/m <sup>3</sup>
Consumer DNEL, longterm	Systemic effects	dermal	120 mg/kg Body weight
Consumer DNEL, longterm	Local effects	dermal	0,012 mg/cm <sup>2</sup>

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Consumer DNEL, Systemic effects oral 4,1 mg/kg Body weight  
longterm

## Predicted No Effect Concentration (PNEC)

### *formaldehyde (50-00-0)*

PNEC Fresh water	0,47 mg/l
PNEC Marine water	0,47 mg/l
PNEC Aquatic intermittent release	4,7 mg/l
PNEC Fresh water sediment	2,44 mg/kg
PNEC Marine sediment	2,44 mg/kg
PNEC Soil	0,21 mg/kg
PNEC Sewage treatment plant	0,19 mg/l

## 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*

Safety glasses

#### *Hand protection*

full contact:

Glove material: butyl-rubber  
Glove thickness: 0,7 mm  
Break through time: > 120 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,4 mm  
Break through time: > 10 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 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

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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*

Flame retardant antistatic protective clothing.

#### *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: filter ABEK

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 let product enter drains.

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## **SECTION 9. Physical and chemical properties**

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

Form	liquid
Colour	clear colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
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	No information available.

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Product name	Catalase Assay Kit Formaldehyde Standard (CN 219265)

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Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

no information available

### 10.6 Hazardous decomposition products

no information available



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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

Acute toxicity estimate: 783,7 mg/kg

Calculation method

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

##### *Acute inhalation toxicity*

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

Calculation method

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

##### *Acute dermal toxicity*

Acute toxicity estimate : > 2.000 mg/kg

Calculation method

##### *Skin irritation*

Mixture causes skin irritation.

##### *Eye irritation*

Mixture causes serious eye irritation.

##### *Sensitisation*

Mixture may cause an allergic skin reaction.

##### *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.

##### *CMR effects*

Carcinogenicity:

Possible carcinogen.

Mutagenicity:

Evidence of genetic defects.

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

Mixture may cause respiratory irritation. Target Organs: Respiratory Tract

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

This information is not available.

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## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After absorption:

We have no description of any symptoms of toxicity.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

## **Components**

### *formaldehyde*

#### *Acute oral toxicity*

LD50 Rat: 100 mg/kg (Lit.)

#### *Acute inhalation toxicity*

Acute toxicity estimate: 3,1 mg/l; vapour

Expert judgement

#### *Acute dermal toxicity*

Acute toxicity estimate : 300,1 mg/kg

Expert judgement

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## **SECTION 12. Ecological information**

### **Mixture**

#### **12.1 Toxicity**

No information available.

#### **12.2 Persistence and degradability**

No information available.

#### **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**

Discharge into the environment must be avoided.

## **Components**

### *formaldehyde*

#### *Partition coefficient: n-octanol/water*

log Pow: 0,021

(Lit.) Bioaccumulation is not expected.

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

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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 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**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 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

**Sea transport (IMDG)**

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
EmS F-A S-P

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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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

SEVESO III  
Not applicable

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 not regulated  
that deplete the ozone layer

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

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

#### *National legislation*

Storage class 5.1B  
The data applies to the entire pack.

### 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.

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H227 Combustible liquid.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.

*Precautionary statements*

Prevention

P201 Obtain special instructions before use.

P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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Product name	Catalase Assay Kit Formaldehyde Standard (CN 219265)

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Further information

Restricted to professional users.

Contains: formaldehyde

### **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.

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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.*

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Date of issue: 12.04.2019

Version 1.0

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

#### 1.1 Product identifier

Catalogue No.	D44002
Product name	Catalase Assay Kit
	Potassium Hydroxide (4 ml of 10M)
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	Biochemical research/analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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#### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

#### 1.4 Emergency telephone number

**Please contact the regional company representation in your country.**

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### SECTION 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1, H290

Acute toxicity, Category 4, Oral, H302

Skin corrosion, Category 1A, H314

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

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Catalase Assay Kit  
Potassium Hydroxide (4 ml of 10M)

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## 2.2 Label elements

### Labelling.(REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.

*Precautionary statements*

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

### Reduced labelling (≤125 ml)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H314 Causes severe skin burns and eye damage.

*Precautionary statements*

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: potassium hydroxide

## 2.3 Other hazards

None known.



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Catalogue No. D44002  
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Potassium Hydroxide (4 ml of 10M)

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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
potassium hydroxide ( $\geq 50\%$ - $\leq 100\%$ )		
<i>PBT/vPvB: Not applicable for inorganic substances</i>		
1310-58-3	01-2119487136-33-XXXX	01-2119487136-33-XXXX
		Corrosive to metals, Category 1, H290
		Acute toxicity, Category 4, H302
		Skin corrosion, Category 1A, H314

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

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

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

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

Irritation and corrosion, Cough, Shortness of breath, Vomiting, pain, collapse, death

Drying-out effect resulting in rough and chapped skin.

Risk of corneal clouding.

Risk of blindness!

### 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

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Potassium Hydroxide (4 ml of 10M)

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### *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.

Ambient fire may liberate hazardous vapours.

## **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. Suppress (knock down) gases/vapours/mists with a water spray jet.

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## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. 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 let product enter 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 and neutralising material (e.g. Chemizorb® OH<sup>-</sup>, Merck Art. No. 101596). 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.

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Catalogue No. D44002  
Product name Catalase Assay Kit  
Potassium Hydroxide (4 ml of 10M)

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## 7.2 Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers*

No aluminium, tin, or zinc containers.

*Storage conditions*

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

*potassium hydroxide (1310-58-3)*

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

#### Predicted No Effect Concentration (PNEC)

*potassium hydroxide (1310-58-3)*

PNEC no data available

### 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:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

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Potassium Hydroxide (4 ml of 10M)

---

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 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 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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

*Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

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 let product enter drains.

---

## **SECTION 9. Physical and chemical properties**

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

Form	liquid
Colour	clear colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	does not flash
Evaporation rate	No information available.

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Catalogue No.	D44002
Product name	Catalase Assay Kit Potassium Hydroxide (4 ml of 10M)

---

Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Corrosion	May be corrosive to metals.
-----------	-----------------------------

---

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Violent reactions possible with:

azides, Strong acids, anhydrides, Hydrocarbons, nonmetallic oxides, phosphorus, organic nitro compounds, halogen oxides, nonmetallic oxyhalides, Halogenated hydrocarbon, halogen-halogen compounds, halogens, Alkaline earth metals, ammonium compounds, Light metals, Metals

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Catalogue No.	D44002
Product name	Catalase Assay Kit Potassium Hydroxide (4 ml of 10M)

---

Gives off hydrogen by reaction with metals.

#### 10.4 Conditions to avoid

no information available

#### 10.5 Incompatible materials

animal/vegetable tissues, glass, various plastics, Metals

#### 10.6 Hazardous decomposition products

no information available

---

### SECTION 11. Toxicological information

#### 11.1 Information on toxicological effects

##### Mixture

##### *Acute oral toxicity*

Acute toxicity estimate: 593,58 mg/kg

Calculation method

Symptoms: Pain, shock, Vomiting, oedema, collapse, death, If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

##### *Acute inhalation toxicity*

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages: , damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract.

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

Drying-out effect resulting in rough and chapped skin.

Mixture causes severe burns.

##### *Eye irritation*

Risk of corneal clouding. Mixture causes serious eye damage. Risk of blindness!

##### *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.

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Potassium Hydroxide (4 ml of 10M)

---

*Specific target organ toxicity - repeated exposure*  
This information is not available.

*Aspiration hazard*  
This information is not available.

## 11.2 Further information

Other dangerous properties can not be excluded.  
Handle in accordance with good industrial hygiene and safety practice.

## Components

### *potassium hydroxide*

*Acute oral toxicity*  
LD50 Rat: 333 mg/kg  
OECD Test Guideline 425

*Skin irritation*  
Rabbit  
Result: Causes burns.  
(IUCLID)

*In vitro study*  
Result: Corrosive  
OECD Test Guideline 431

*Eye irritation*  
Rabbit  
Result: Causes serious eye damage.  
OECD Test Guideline 405

*Sensitisation*  
Sensitisation test: Guinea pig  
Result: negative  
(IUCLID)

*Germ cell mutagenicity*  
*Genotoxicity in vitro*  
Ames test  
Escherichia coli/Salmonella typhimurium  
Result: negative  
(IUCLID)

---

## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

##### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

#### 12.3 Bioaccumulative potential

No information available.

#### 12.4 Mobility in soil

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Potassium Hydroxide (4 ml of 10M)

---

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*

Biological effects:

Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted.

Neutralisation possible in waste water treatment plants.

Discharge into the environment must be avoided.

## Components

*potassium hydroxide*

*Toxicity to fish*

LC50 *Gambusia affinis* (Mosquito fish): 80 mg/l; 96 h (IUCLID)

*Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

*Partition coefficient: n-octanol/water*

Not applicable

PBT/vPvB: Not applicable for inorganic substances

---

## 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.

---

## SECTION 14. Transport information

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 3316
<b>14.2 Proper shipping name</b>	CHEMICAL KIT
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

---



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Potassium Hydroxide (4 ml of 10M)

---

## Air transport (IATA)

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

## Sea transport (IMDG)

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
EmS F-A S-P

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard Legislation 96/82/EC  
Directive 96/82/EC does not apply  
SEVESO III  
Not applicable

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 not regulated that deplete the ozone layer

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Potassium Hydroxide (4 ml of 10M)

---

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

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

### National legislation

Storage class 5.1B  
The data applies to the entire pack.

## 15.2 Chemical safety assessment

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

---

## SECTION 16. Other information

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

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

Hazard pictograms



Signal word

Danger

### Hazard statements

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.

### Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

---

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Product name	Catalase Assay Kit Potassium Hydroxide (4 ml of 10M)

---

## Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

Contains: potassium hydroxide

## 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.

---

*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

according to Regulation (EC) No. 1907/2006

Date of issue: 12.04.2019

Version 1.0

---

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

#### 1.1 Product identifier

Catalogue No.	D44002
Product name	Catalase Assay Kit
	Hydrogen Peroxide (CN 219265)
REACH Registration Number	This product is a mixture. REACH Registration Number see section 3. 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	Biochemical research/analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
-----------------	--

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

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

#### 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

Long-term (chronic) aquatic hazard, Category 4, H413

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

D44002  
Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

## 2.2 Label elements

### Labelling.(REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H413 May cause long lasting harmful effects to aquatic life.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.

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.

H413 May cause long lasting harmful effects to aquatic life.

*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.

Contains: Hydrogen Peroxide

## 2.3 Other hazards

None known.

---

## SECTION 3. Composition/information on ingredients

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

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 ( $\geq 25\%$  -  $< 35\%$ )

*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-XXXX	
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	Oxidizing liquid, Category 1, H271
	Acute toxicity, Category 4, H302
	Acute toxicity, Category 4, H332
	Skin corrosion, Category 1A, H314
	Specific target organ toxicity - single exposure, Category 3, H335
	Long-term (chronic) aquatic hazard, Category 3, H412

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

---

## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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

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.

---

## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

### *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.

Ambient fire may liberate hazardous vapours.

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.

---

## **SECTION 6. Accidental release measures**

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

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 and neutralising material (e.g. Chemizorb® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

Indications about waste treatment see section 13.

---

## **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**

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

*Requirements for storage areas and containers*  
No metal containers.

Close containers in such a way to enable internal pressure to escape.

*Storage conditions*

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

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

#### 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.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

## 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: 480 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

### *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.

---

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form liquid  
Colour colourless

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according to Regulation (EC) No. 1907/2006

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Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

Odour	slight
Odour Threshold	No information available.
pH	2 - 4 at 20 °C
Melting point	-26 °C at 1.013 hPa
Boiling point/boiling range	107 °C at 1.013 hPa
Flash point	No information available.
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.
Density	1,11 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	> 100 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	Oxidizing potential

## 9.2 Other data

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	D44002
Product name	Catalase Assay Kit Hydrogen Peroxide (CN 219265)

---

none

---

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

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

### 10.2 Chemical stability

heat-sensitive  
Sensitivity to light

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Acetaldehyde, Acetone, Activated charcoal, Alcohols, formic acid, Ammonia, combustible substances, vinyl acetate, Organic Substances, Powdered metals, Dust., hydrazine and derivatives, hydrides, Ether, Potassium, anilines, metallic salts, acetic acid, Acetic anhydride, formaldehyde, furfuryl alcohol, oils, sodium, Lithium, lithium aluminium hydride, organic solvents, magnesium, metallic oxides, Methanol, Reducing agents, Oxides of phosphorus

butanol, with, Sulphuric acid

alkali hydroxides, with, Heavy metals

Exothermic reaction with:

alkali hydroxides, antimony sulfide, tin (II) chloride, Sulphides, THIOPHENE, nitric acid (conc.), ethanol, glycerol, Potassium hydroxide, phosphorus, metallic oxides, Sodium hydroxide, Aldehydes, nonmetals, nonmetallic oxides, strong alkalis, Amines, Acids, Oxidizing agents, alkali salts, Alkali metals, Alkaline earth metals, iodides, peroxi compounds, brass, organic nitro compounds

phenol, with, metal catalysts

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

potassium permanganate, Wood/Sawdust

vinyl acetate, with, Catalyst

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

Metals

### 10.6 Hazardous decomposition products

no information available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

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 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

After absorption:

Systemic effects:

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

D44002  
Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

## Components

### *Hydrogen Peroxide*

#### *Acute oral toxicity*

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

#### *Acute dermal toxicity*

LD50 Rabbit: > 2.000 mg/kg  
US-EPA

#### *Repeated dose toxicity*

Mouse  
male  
Oral  
90 d  
daily  
NOAEL: 26 mg/kg  
LOAEL: 76 mg/kg  
OECD Test Guideline 408  
Subchronic toxicity

Rat  
male and female  
inhalation (dust/mist/fume)  
28 d  
daily  
NOAEL: 0,0029 mg/l  
LOAEL: 0,0146 mg/l  
OECD Test Guideline 412  
Subacute toxicity

#### *Germ cell mutagenicity*

#### *Genotoxicity in vivo*

In vivo micronucleus test  
Mouse  
male and female  
Intraperitoneal injection  
Result: negative  
Method: OECD Test Guideline 474

---

## 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

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Hydrogen Peroxide (CN 219265)

---

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*

semi-static test LC50 Pimephales promelas (fathead minnow): 16,4 mg/l; 96 h

Analytical monitoring: yes

US-EPA

semi-static test NOEC Pimephales promelas (fathead minnow): 5 mg/l; 96 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to daphnia and other aquatic invertebrates*

semi-static test LC50 Daphnia pulex (Water flea): 2,4 mg/l; 48 h

Analytical monitoring: yes

US-EPA

semi-static test NOEC Daphnia pulex (Water flea): 1 mg/l; 48 h

Analytical monitoring: yes

US-EPA

#### *Toxicity to algae*

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

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

#### *Toxicity to bacteria*

static test EC50 activated sludge: 466 mg/l; 30 min

Analytical monitoring: yes

OECD Test Guideline 209

static test EC50 activated sludge: > 1.000 mg/l; 3 h

Analytical monitoring: yes

OECD Test Guideline 209

#### *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

flow-through test NOEC Daphnia magna (Water flea): 0,63 mg/l; 21 d (ECHA)

#### *Biodegradability*

> 99 %; 0,5 h; aerobic

(ECHA)

Readily biodegradable

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

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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.

---

**SECTION 14. Transport information**

**Land transport (ADR/RID)**

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**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 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

**Sea transport (IMDG)**

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
EmS F-A S-P

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---

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## 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

SEVESO III  
Not applicable

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 not regulated  
that deplete the ozone layer

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

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

#### *National legislation*

Storage class 5.1B  
The data applies to the entire pack.

### 15.2 Chemical safety assessment

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



# SAFETY DATA SHEET

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Catalogue No.  
Product name

D44002  
Catalase Assay Kit  
Hydrogen Peroxide (CN 219265)

---

## SECTION 16. Other information

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

H271	May cause fire or explosion; strong oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*  
Danger

### *Hazard statements*

H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
H413 May cause long lasting harmful effects to aquatic life.

### *Precautionary statements*

Prevention

P273 Avoid release to the environment.  
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.

Contains: Hydrogen Peroxide

### 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).

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Catalogue No.	D44002
Product name	Catalase Assay Kit Hydrogen Peroxide (CN 219265)

---

**Regional representation**

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

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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

according to Regulation (EC) No. 1907/2006

Date of issue: 12.04.2019

Version 1.0

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

#### 1.1 Product identifier

Catalogue No. D44002

Product name Catalase Assay Kit

Purpald (Chromogen) (CN 219265)

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 Biochemical research/analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone: +49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto: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)**

Corrosive to metals, Category 1, H290

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

---

## 2.2 Label elements

### Labelling.(REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H290 May be corrosive to metals.

## 2.3 Other hazards

None known.

---

## 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
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Hydrochloric Acid ( $\geq 5\%$  -  $< 10\%$ )

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

7647-01-0	01-2119484862-27-XXXX	
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Corrosive to metals, Category 1, H290  
Skin corrosion, Category 1B, H314  
Specific target organ toxicity - single exposure, Category 3, H335

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

---

## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

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Purpald (Chromogen) (CN 219265)

---

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

irritant effects

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

No information available.

---

### **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.

Ambient fire may liberate hazardous vapours.

#### **5.3 Advice for firefighters**

##### *Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

##### *Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

### **SECTION 6. Accidental release measures**

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

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 let product enter 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**

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---

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*

Change contaminated clothing. Wash hands after working with substance.

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

*Requirements for storage areas and containers*

No metal containers.

*Storage conditions*

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

*Hydrochloric Acid (7647-01-0)*

Worker DNEL, acute	Local effects	inhalation	15 mg/m <sup>3</sup>
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Worker DNEL, longterm	Local effects	inhalation	8 mg/m <sup>3</sup>
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#### Predicted No Effect Concentration (PNEC)

*Hydrochloric Acid (7647-01-0)*

PNEC Fresh water	0,036 mg/l
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PNEC Marine water	0,036 mg/l
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PNEC Aquatic intermittent release	0,045 mg/l
-----------------------------------	------------

PNEC Sewage treatment plant	0,036 mg/l
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### 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.

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Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

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## 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*

Safety glasses

### *Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 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 741 Dermatril® L (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

### *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: filter E-(P2)

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 let product enter drains.

---

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form liquid

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

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Colour	yellow to yellow-orange
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n- octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Corrosion	May be corrosive to metals.
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Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

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**SECTION 10. Stability and reactivity**

**10.1 Reactivity**

See section 10.3

**10.2 Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**

Violent reactions possible with:

The generally known reaction partners of water.

Generates dangerous gases or fumes in contact with:

Metals

**10.4 Conditions to avoid**

no information available

**10.5 Incompatible materials**

Metals

metal alloys

**10.6 Hazardous decomposition products**

in the event of fire: See section 5.

---

**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

**Mixture**

*Acute oral toxicity*

This information is not available.

*Acute inhalation toxicity*

This information is not available.

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

slight irritation

*Eye irritation*

slight irritation

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.

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Purpald (Chromogen) (CN 219265)

---

### *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**

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

## **Components**

### *Hydrochloric Acid*

#### *Skin irritation*

Rabbit

Result: Corrosive

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Result: Irreversible effects on the eye

OECD Test Guideline 405

#### *Sensitisation*

Maximisation Test Guinea pig

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

---

## **SECTION 12. Ecological information**

### **Mixture**

#### **12.1 Toxicity**

No information available.

#### **12.2 Persistence and degradability**

No information available.

#### **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**

Discharge into the environment must be avoided.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

---

## Components

### Hydrochloric Acid

#### Toxicity to fish

Lepomis macrochirus (Bluegill sunfish): 20,5 mg/l; 96 h  
OECD Test Guideline 203

#### Toxicity to daphnia and other aquatic invertebrates

EC50: 1,3 mg/l; 48 h  
OECD Test Guideline 202

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

---

## 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.

---

## SECTION 14. Transport information

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 3316
<b>14.2 Proper shipping name</b>	CHEMICAL KIT
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

<b>14.1 UN number</b>	UN 3316
<b>14.2 Proper shipping name</b>	CHEMICAL KIT
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

---

**14.6 Special precautions for user** no

### Sea transport (IMDG)

**14.1 UN number** UN 3316

**14.2 Proper shipping name** CHEMICAL KIT

**14.3 Class** 9

**14.4 Packing group** II

**14.5 Environmentally hazardous** --

**14.6 Special precautions for user** yes

EmS F-A S-P

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

Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## 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

SEVESO III  
Not applicable

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

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

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

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Purpald (Chromogen) (CN 219265)

---

## *National legislation*

Storage class 5.1B  
The data applies to the entire pack.

## 15.2 Chemical safety assessment

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

---

## SECTION 16. Other information

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

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H290 May be corrosive to metals.

### 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.

---

*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

according to Regulation (EC) No. 1907/2006

Date of issue: 12.04.2019

Version 1.0

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

#### 1.1 Product identifier

Catalogue No.	D44002
Product name	Catalase Assay Kit
	Potassium Periodate (CN 219265)
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	Biochemical research/analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
-----------------	--

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

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

#### 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)

Corrosive to metals, Category 1, H290

Skin corrosion, Category 1A, H314

Specific target organ toxicity - repeated exposure, Category 1, Thyroid, H372

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

D44002  
Catalase Assay Kit  
Potassium Periodate (CN 219265)

---

## 2.2 Label elements

### Labelling.(REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure.

*Precautionary statements*

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

### Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H314 Causes severe skin burns and eye damage.  
H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure.

*Precautionary statements*

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: potassium metaperiodate, potassium hydroxide

## 2.3 Other hazards

None known.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. D44002  
Product name Catalase Assay Kit  
Potassium Periodate (CN 219265)

---

## 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
---------	---------------------	----------------

potassium metaperiodate ( $\geq 10\%$ - $< 20\%$ )	7790-21-8 *	
--	-------------	--

Oxidizing solid, Category 1, H271  
Skin corrosion, Category 1C, H314  
Specific target organ toxicity - repeated exposure, Category 1, H372  
Short-term (acute) aquatic hazard, Category 1, H400  
M-Factor: 1

potassium hydroxide ( $\geq 5\%$ - $< 10\%$ )		
---	--	--

*PBT/vPvB: Not applicable for inorganic substances*

1310-58-3	01-2119487136-33-XXXX	01-2119487136-33-XXXX	Corrosive to metals, Category 1, H290 Acute toxicity, Category 4, H302 Skin corrosion, Category 1A, H314
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\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

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

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.



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

Irritation and corrosion, Cough, Shortness of breath  
Risk of blindness!  
pain, collapse  
Risk of corneal clouding.  
Drying-out effect resulting in rough and chapped skin.

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

No information available.

---

## 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.  
Ambient fire may liberate hazardous vapours.

### 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*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## SECTION 6. Accidental release measures

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

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 let product enter drains.

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

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH<sup>-</sup>, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

---

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

*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*

No metal containers.

*Storage conditions*

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Derived No Effect Level (DNEL)

*potassium hydroxide (1310-58-3)*

Worker DNEL, longterm	Local effects	inhalation	1 mg/m <sup>3</sup>
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Consumer DNEL, longterm	Local effects	inhalation	1 mg/m <sup>3</sup>
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*potassium hydroxide (1310-58-3)*

PNEC no data available

### 8.2 Exposure controls

#### Engineering measures

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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: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 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 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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

### Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: filter ABEK

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 let product enter drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form liquid

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Colour	clear colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	does not flash
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	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n- octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	Oxidizing potential

## 9.2 Other data

Corrosion	May be corrosive to metals.
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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Violent reactions possible with:

azides, Strong acids, anhydrides, Hydrocarbons, nonmetallic oxides, phosphorus, organic nitro compounds, halogen oxides, nonmetallic oxyhalides, Halogenated hydrocarbon, halogen-halogen compounds, halogens, Alkaline earth metals, ammonium compounds, Light metals, Metals

Gives off hydrogen by reaction with metals.

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

Metals

animal/vegetable tissues, glass, various plastics

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

*Acute oral toxicity*

Acute toxicity estimate: > 2.000 mg/kg

Calculation method

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach., Pain, shock, Vomiting, oedema, collapse, death

*Acute inhalation toxicity*

Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract.

*Acute dermal toxicity*

This information is not available.

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### *Skin irritation*

Mixture causes severe burns. Drying-out effect resulting in rough and chapped skin.

### *Eye irritation*

Mixture causes serious eye damage. Risk of blindness!

### *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*

Mixture causes damage to organs through prolonged or repeated exposure.

Target Organs: Thyroid

### *Aspiration hazard*

This information is not available.

## **11.2 Further information**

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## **Components**

### *potassium metaperiodate*

No information available.

### *potassium hydroxide*

#### *Acute oral toxicity*

LD50 Rat: 333 mg/kg

OECD Test Guideline 425

#### *Skin irritation*

Rabbit

Result: Causes burns.

(IUCLID)

#### *In vitro study*

Result: Corrosive

OECD Test Guideline 431

#### *Eye irritation*

Rabbit

Result: Causes serious eye damage.

OECD Test Guideline 405

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#### *Sensitisation*

Sensitisation test: Guinea pig  
Result: negative  
(IUCLID)

#### *Germ cell mutagenicity*

*Genotoxicity in vitro*  
Ames test  
Escherichia coli/Salmonella typhimurium  
Result: negative  
(IUCLID)

---

## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

No information available.

#### 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

Discharge into the environment must be avoided.

### Components

#### *potassium metaperiodate*

##### *Toxicity to fish*

semi-static test LC50 *Oncorhynchus mykiss* (rainbow trout): > 0,17 mg/l; 96 h  
Analytical monitoring: yes  
OECD Test Guideline 203 The value is given in analogy to the following substances:

##### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 *Daphnia magna* (Water flea): 0,18 mg/l; 48 h  
Analytical monitoring: yes  
OECD Test Guideline 202 The value is given in analogy to the following substances:

##### *Toxicity to algae*

static test EC50 *Pseudokirchneriella subcapitata* (algae): 1,1 mg/l; 72 h  
Analytical monitoring: yes  
OECD Test Guideline 201 The value is given in analogy to the following substances:

##### *Toxicity to bacteria*

static test EC50 activated sludge: 220 mg/l; 3 h  
OECD Test Guideline 209 The value is given in analogy to the following substances:

#### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

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*Partition coefficient: n-octanol/water*  
Not applicable for inorganic substances

*M-Factor*  
1

## *potassium hydroxide*

*Toxicity to fish*  
LC50 *Gambusia affinis* (Mosquito fish): 80 mg/l; 96 h (IUCLID)

## *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

*Partition coefficient: n-octanol/water*  
Not applicable

PBT/vPvB: Not applicable for inorganic substances

---

## **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)**

<b>14.1 UN number</b>	UN 3316
<b>14.2 Proper shipping name</b>	CHEMICAL KIT
<b>14.3 Class</b>	9
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	E

### **Inland waterway transport (ADN)**

Not relevant

### **Air transport (IATA)**



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**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

#### Sea transport (IMDG)

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** II  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
EmS F-A S-P

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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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 Legislation 96/82/EC  
Toxic  
2  
Quantity 1: 50 t  
Quantity 2: 200 t

96/82/EC  
Oxidizing  
3  
Quantity 1: 50 t  
Quantity 2: 200 t

SEVESO III  
Not applicable

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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 not regulated that deplete the ozone layer

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

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

#### *National legislation*

Storage class 5.1B  
The data applies to the entire pack.

## 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 oxidizer.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

### Training advice

Provide adequate information, instruction and training for operators.

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## Labelling

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure.

*Precautionary statements*

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: potassium metaperiodate, potassium hydroxide

## 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.

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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.*