

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 13.08.2018

Version 8.11

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

Catalogue No.	822325
Product name	4'-Hydroxyacetanilide for synthesis
REACH Registration Number	01-2119935246-37-XXXX
CAS-No.	103-90-2

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

Identified uses	Pharmaceutical production, Chemical for synthesis 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

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

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## 2.2 Label elements

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

#### Hazard pictograms



#### Signal word

Warning

#### Hazard statements

H302 Harmful if swallowed.

#### Reduced labelling (≤125 ml)

##### Hazard pictograms



##### Signal word

Warning

CAS-No. 103-90-2

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	CH <sub>3</sub> CONHC <sub>6</sub> H <sub>4</sub> (OH)	C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub> (Hill)
EC-No.	203-157-5	
Molar mass	151,16 g/mol	

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

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
4'-hydroxyacetanilide (<= 100 % )		
103-90-2	01-2119935246-37-XXXX	Acute toxicity, Category 4, H302

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

### 3.2 Mixture

Not applicable

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## 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.

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

Drowsiness, Dizziness, agitation, Nausea, Vomiting, gastric pain, Unconsciousness, respiratory paralysis, Coma

### 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

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## *Unsuitable extinguishing media*

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

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

Combustible.

Risk of dust explosion.

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

Fire may cause evolution of:

nitrogen oxides, nitrous gases

## **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.

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

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

Advice for non-emergency personnel: Avoid inhalation of dusts. 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **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. Preventive skin protection recommended. Wash hands after working with substance.

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

#### *Storage conditions*

Protected from light.

Tightly closed. Dry.

Recommended storage temperature see product label.

### 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

### 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.

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## *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 dusts 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.

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## 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	powder, finocrystalline
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	5,5 - 6,5 at 20 °C (saturated solution)
Melting point/range	169 - 170 °C at 1.013 hPa
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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Relative vapour density	No information available.
Density	1,293 g/cm <sup>3</sup> at 21 °C
Relative density	No information available.
Water solubility	14 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: 0,46 (25 °C) (experimental) Bioaccumulation is not expected. (Lit.)
Auto-ignition temperature	No information available.
Decomposition temperature	> 180 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

Ignition temperature	540 °C
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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Risk of dust explosion.

### 10.2 Chemical stability

Sensitivity to light



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## 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Oxidizing agents, Bases, acids

## 10.4 Conditions to avoid

Strong heating (decomposition).

Exposure to light.

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 Rat: 1.944 mg/kg

(RTECS)

#### *Acute inhalation toxicity*

This information is not available.

#### *Acute dermal toxicity*

This information is not available.

#### *Skin irritation*

Rabbit

Result: No irritation

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Result: No eye irritation

OECD Test Guideline 405

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## *Sensitisation*

Sensitisation possible in predisposed persons.

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

Ames test

Result: negative

Method: OECD Test Guideline 471

## *Carcinogenicity*

Did not show carcinogenic effects in animal experiments. (IUCLID)

## *Reproductive toxicity*

No impairment of reproductive performance suspected. (IUCLID)

## *Teratogenicity*

Did not show teratogenic effects in animal experiments. (IUCLID)

## *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 of large quantities:

Systemic effects:

Nausea, Vomiting, Dizziness, gastric pain, lack of appetite, Drowsiness, somnolence, agitation,

Changes in the blood count, Cardiac irregularities, Unconsciousness, respiratory paralysis,

Coma

Chronic uptake results in damage of:

Kidney, Liver

Therapeutically used substance.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

#### *Toxicity to fish*

flow-through test LC50 *Oryzias latipes* (Orange-red killifish): 160 mg/l; 96 h  
(ECHA)

#### *Toxicity to bacteria*

EC50 *Photobacterium phosphoreum*: 331 mg/l; 5 min  
(Lit.)

### 12.2 Persistence and degradability

#### *Biodegradability*

57 %; 28 d

OECD Test Guideline 301F

Not readily biodegradable.

99 %; 5 d

OECD Test Guideline 302B

Readily eliminated from water

### 12.3 Bioaccumulative potential

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

log Pow: 0,46 (25 °C)

(experimental)

Bioaccumulation is not expected. (Lit.)

### 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.

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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 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation 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.

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

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 10 - 13

## 15.2 Chemical safety assessment

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

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## SECTION 16. Other information

### Merck (company-internal/in-house) Occupational Exposure Limit (Merck OEL)

Internal company value 1,3 mg/m<sup>3</sup>

Short Term Exposure (15 min) Factor 4

Pregnancy risk groups C

There is no reason to fear damage to the embryo, or foetus when the Merck OEL value is observed.

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

H302 Harmful if swallowed.

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## Training advice

Provide adequate information, instruction and training for operators.

## Labelling

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H302 Harmful if swallowed.

## 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.*