

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.3

Revision Date 19.01.2021

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : ortho-Phosphoric acid 85% for analysis  
EMSURE® ACS,ISO,Reag. Ph Eur

Product Number : 1.00573  
Catalogue No. : 100573  
Brand : Millipore  
REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Reagent for analysis, Chemical production

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

Company : Merck KGaA  
Frankfurter Str. 250  
D-64271 DARMSTADT

Telephone : +49 (0)6151 72-0  
Fax : +49 6151 727780  
E-mail address : TechnicalService@merckgroup.com

### 1.4 Emergency telephone

Emergency Phone # : +(44)-870-8200418 (CHEMTREC (GB))  
+(353)-19014670 (CHEMTREC Ireland)  
001-803-017-9114 (CHEMTREC India)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals (Category 1), H290  
Acute toxicity, Oral (Category 4), H302  
Skin corrosion (Sub-category 1B), H314  
Serious eye damage (Category 1), H318

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

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008



Pictogram



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals.

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P234

Keep only in original packaging.

P270

Do not eat, drink or smoke when using this product.

P280

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

P301 + P312

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

Supplemental Hazard Statements

none

### Reduced Labeling (<= 125 ml)

Pictogram



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P280

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

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

Supplemental Hazard Statements

none

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Component	Classification	Concentration
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<b>phosphoric acid</b>			
CAS-No.	7664-38-2	Met. Corr. 1; Acute Tox. 4;	>= 70 - < 90 %
EC-No.	231-633-2	Skin Corr. 1B; Eye Dam.	
Index-No.	015-011-00-6 *	1; H290, H302, H314, H318 Concentration limits: >= 25 %: Skin Corr. 1B, H314; 10 - < 25 %: Skin Irrit. 2, H315; 10 - < 25 %: Eye Irrit. 2, H319; >= 1 %: Met. Corr. 1, H290;	

\*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.

#### **If inhaled**

After inhalation: fresh air. Call in physician.

#### **In case of skin contact**

After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a physician immediately.

#### **In case of eye contact**

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

#### **If swallowed**

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**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

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



### **Unsuitable extinguishing media**

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

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

Oxides of phosphorus

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Oxides of phosphorus

## **5.3 Advice 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.

## **5.4 Further information**

Suppress (knock down) gases/vapors/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: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection 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® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

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

For disposal 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.

For precautions see section 2.2.

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

#### **Storage conditions**

No metal or light-weight-metal containers.

Tightly closed.

Store above +15°C.

### **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**

#### **Ingredients with workplace control parameters**

### **8.2 Exposure controls**

#### **Personal protective equipment**

##### **Eye/face protection**

Tightly fitting safety goggles

##### **Skin protection**

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)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

##### **Respiratory protection**

Recommended Filter type: Filter type 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.

##### **Control of environmental exposure**

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**

- |               |                                  |
|---------------|----------------------------------|
| a) Appearance | Form: liquid<br>Color: colorless |
| b) Odor       | odorless                         |



c) Odor Threshold	Not applicable
d) pH	< 0,5 at 100 g/l at 20 °C
e) Melting point/freezing point	Melting point: ca.21 °C
f) Initial boiling point and boiling range	ca.158 °C at 1.013 hPa
g) Flash point	does not flash
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	2 hPa at 20 °C
l) Vapor density	No data available
m) Relative density	1,71 g/cm <sup>3</sup> at 20 °C
n) Water solubility	at 20 °C soluble
o) Partition coefficient: n-octanol/water	No data available
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: 30,5 mm <sup>2</sup> /s at 20 °C Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	Oxidizing potential

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

No data available

### 10.3 Possibility of hazardous reactions

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

Metals

metal alloys

Possible formation of:

Hydrogen

Violent reactions possible with:



Bases  
metallic oxides

#### **10.4 Conditions to avoid**

No data available

#### **10.5 Incompatible materials**

Aluminum, iron/iron-containing compounds, Mild steel Gives off hydrogen by reaction with metals.

#### **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**

##### **Mixture**

##### **Acute toxicity**

No data available

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

##### **Skin corrosion/irritation**

##### **Serious eye damage/eye irritation**

Mixture causes serious eye damage. Risk of blindness! conjunctivitis

##### **Respiratory or skin sensitization**

No data available

##### **Germ cell mutagenicity**

No data available

##### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

##### **Reproductive toxicity**

No data available

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

No data available

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages: , damage of respiratory tract

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

No data available

##### **Aspiration hazard**

No data available

#### **11.2 Additional Information**

Not available

Irritation and corrosion, Cough, Shortness of breath, Pain, Spasm, shock, conjunctivitis  
Risk of blindness!



Systemic effects:

Convulsions  
shock

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## Components

### phosphoric acid

#### Acute toxicity

LD50 Oral - Rat - 1.250 mg/kg

Remarks:

Lungs, Thorax, or Respiration: Acute pulmonary edema.

Liver: Changes in liver weight.

(RTECS)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 24 h

Remarks:

(ECHA)

(Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Mutagenicity (mammal cell test): chromosome aberration.

Human lymphocytes

Result: negative

In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: negative

#### Carcinogenicity

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available





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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Mixture

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Harmful effect due to pH shift. Caustic even in diluted form. Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.

Discharge into the environment must be avoided.

No data available

#### Components

##### phosphoric acid

Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

### 14.1 UN number

ADR/RID: 1805

IMDG: 1805

IATA: 1805



#### **14.2 UN proper shipping name**

ADR/RID: PHOSPHORIC ACID SOLUTION

IMDG: PHOSPHORIC ACID SOLUTION

IATA: Phosphoric acid, solution

#### **14.3 Transport hazard class(es)**

ADR/RID: 8

IMDG: 8

IATA: 8

#### **14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

#### **14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

#### **14.6 Special precautions for user**

No data available

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### **SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, :  
placing on the market and use of certain  
dangerous substances, preparations and articles  
(Annex XVII)

##### **National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

#### **15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has been carried out for this substance.

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### **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.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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