

according to Regulation (EC) No 1907/2006

# Phosphorsäure-Ätzlösung "OP148" 93 ml H3PO4 85 % + 207 ml H2O

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

## 1.1. Product identifier

Phosphorsäure-Ätzlösung "OP148" 93 ml H3PO4 85 % + 207 ml H2O

UFI: 9MX3-035D-T00W-73KS

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

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

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

### Uses advised against

Do not use for private purposes (household).

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

Company name: AnalytiChem GmbH

ACD

Street: Stempelstraße 6
Place: D-47167 Duisburg

Telephone: 0203/5194-0 Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

number: Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada:

1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls

accepted)

### **Further Information**

This product is a mixture. REACH Registration Number see section 3.

#### **SECTION 2: Hazards identification**

# 2.1. Classification of the substance or mixture

# Regulation (EC) No 1272/2008

Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

## 2.2. Label elements

# Regulation (EC) No 1272/2008

# Hazard components for labelling

phosphoric acid

Signal word: Danger

Pictograms:







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#### **Hazard statements**

H290 May be corrosive to metals. H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

# **Precautionary statements**

P260 Do not breathe mist/vapours/spray.

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water

or shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

#### 2.3. Other hazards

No data available

# **SECTION 3: Composition/information on ingredients**

#### 3.2. Mixtures

#### **Chemical characterization**

Mixtures in aqueous solution

### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-38-2	phosphoric acid			
	231-633-2 015-011-00-6 01-2119485924-24			
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 H314 H318			

Full text of H and EUH statements: see section 16.

## Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7664-38-2	231-633-2	phosphoric acid	35 - < 40 %
	oral: ATE = 500 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25		

## **Further Information**

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 = 0.1 % (w/w).

## **SECTION 4: First aid measures**

# 4.1. Description of first aid measures

#### **General information**

First aider: Pay attention to self-protection!

### After inhalation

Provide fresh air.

Call a physician immediately.

## After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.





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### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

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

Protect uninjured eye.

## After ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Causes burns.

Irritant

Cough

Dyspnoea

Spasms

Abdominal pain

Conjunctival oedema (chemosis).

Risk of serious damage to eyes.

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

No data available

## **SECTION 5: Firefighting measures**

## 5.1. Extinguishing media

### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

#### Unsuitable extinguishing media

no restriction

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

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Phosphorus oxides

# 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

#### **SECTION 6: Accidental release measures**

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

## General advice

Corrosive to metals.

## For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

**Emergency procedures** 





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Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

### For emergency responders

Precautionary statements For emergency responders: Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

### For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## **SECTION 7: Handling and storage**

### 7.1. Precautions for safe handling

#### Advice on safe handling

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Use personal protection equipment.

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol.

# Advice on protection against fire and explosion

Usual measures for fire prevention.

### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

### Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

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

# Requirements for storage rooms and vessels

Corrosive to metals.

Unsuitable container/equipment material: Metal, Light metal

# Hints on joint storage

national regulations

# Further information on storage conditions

Keep container tightly closed.

## 7.3. Specific end use(s)





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Laboratory chemicals

# **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

### Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	
		-	2		STEL (15 min)	

### **DNEL/DMEL values**

CAS No	Substance					
DNEL type		Exposure route	Effect	Value		
7664-38-2	phosphoric acid					
Worker DNEL, acute		inhalation	local	2 mg/m³		
Worker DNEL, long-term		inhalation	local	2,92 mg/m³		
Consumer DNEL, long-term		inhalation	systemic	4,57 mg/m³		
Consumer DNEL, long-term		inhalation	local	0,36 mg/m³		
Consumer DNEL, long-term		oral	systemic	0,1 mg/kg bw/day		
Worker DNEL, long-term		inhalation	systemic	10,7 mg/m³		

## 8.2. Exposure controls

# Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

goggles

Wear eye/face protection.

### **Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min



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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).

#### Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepeneur 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.

### Thermal hazards

No data available

#### **Environmental exposure controls**

Do not allow to enter into surface water or drains.

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

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

Physical state: Liquid
Colour: clear
Odour: odourless

Odour threshold: No data available

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Flammability: No data available Lower explosion limits: No data available Upper explosion limits: No data available Flash point: No data available Auto-ignition temperature: Decomposition temperature: No data available acidic pH-Value: Viscosity / kinematic: No data available Water solubility: completely miscible

Solubility in other solvents

No data available

No data available Dissolution rate: No data available Partition coefficient n-octanol/water: Dispersion stability: No data available Vapour pressure: No data available Vapour pressure: No data available Density (at 20 °C): No data available No data available Relative density: Bulk density: No data available No data available Relative vapour density: Particle characteristics: No data available

### 9.2. Other information





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## Information with regard to physical hazard classes

Explosive properties

The product develops hydrogen in an aqueous solution in contact with metals.

Sustained combustibility: No data available

Self-ignition temperature

Solid: No data available Gas: No data available

Oxidizing properties

Oxidizing

### Other safety characteristics

Evaporation rate: No data available No data available Solvent separation test: Solvent content: ٥% 0% Solid content: No data available Sublimation point: Softening point: No data available Pour point: No data available

No data available:

No data available Viscosity / dynamic: Flow time: No data available

# **Further Information**

Corrosive to metals.

# **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

Corrosive to metals.

#### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

# 10.3. Possibility of hazardous reactions

Alkali (lye)

metals

The product develops hydrogen in an aqueous solution in contact with metals.

# 10.4. Conditions to avoid

No data available

## 10.5. Incompatible materials

Metal, Aluminium, iron and steel

The product develops hydrogen in an aqueous solution in contact with metals.

# 10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

### **Further information**

No data available

## **SECTION 11: Toxicological information**

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

### **Acute toxicity**



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Harmful if swallowed.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

#### ATEmix calculated

ATE (oral) 1355 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose	Species	Source	Method	
7664-38-2	phosphoric acid					
	oral	ATE 500 mg/kg				

## Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

### Sensitising effects

Based on available data, the classification criteria are not met.

## Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

## STOT-single exposure

Based on available data, the classification criteria are not met.

# STOT-repeated exposure

Based on available data, the classification criteria are not met.

## **Aspiration hazard**

Based on available data, the classification criteria are not met.

# Information on likely routes of exposure

There are no data available on the mixture itself.

# Specific effects in experiment on an animal

There are no data available on the mixture itself.

## Additional information on tests

There are no data available on the mixture itself.

## **Practical experience**

There are no data available on the mixture itself.

#### 11.2. Information on other hazards

# **Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

## Other information

There are no data available on the mixture itself.

## **Further information**

Causes burns.

Irritant

Cough

Dyspnoea

Spasms

Abdominal pain

Conjunctival oedema (chemosis).

Risk of serious damage to eyes.



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### **SECTION 12: Ecological information**

### 12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name	Chemical name					
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method
7664-38-2	phosphoric acid						
	Acute algae toxicity	ErC50 mg/l	> 100		Desmodesmus subspicatus	Study report (2010)	EU Method C.3
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (2010)	OECD Guideline 202
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000		activated sludge of a predominantly domestic sewag	Study report (2010)	OECD Guideline 209

#### 12.2. Persistence and degradability

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

### 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

### 12.4. Mobility in soil

There are no data available on the mixture itself.

### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

# **Further information**

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

## Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

# **SECTION 14: Transport information**

# Land transport (ADR/RID)

14.1. UN number or ID number: UN 1805

14.2. UN proper shipping name: PHOSPHORIC ACID, SOLUTION

14.3. Transport hazard class(es):



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Ш 14.4. Packing group: Hazard label: 8 Classification code: C1 Limited quantity: 5 L Excepted quantity: F1 Transport category: 3 Hazard No: 80 Tunnel restriction code: Ε

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1805

14.2. UN proper shipping name: PHOSPHORIC ACID, SOLUTION

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Classification code:C1Limited quantity:5 LExcepted quantity:E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 1805

14.2. UN proper shipping name: PHOSPHORIC ACID SOLUTION

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Special Provisions:223Limited quantity:5 LExcepted quantity:E1EmS:F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1805

14.2. UN proper shipping name: PHOSPHORIC ACID SOLUTION

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Special Provisions:A3 A803Limited quantity Passenger:1 LPassenger LQ:Y841Excepted quantity:E1

IATA-packing instructions - Passenger:852IATA-max. quantity - Passenger:5 LIATA-packing instructions - Cargo:856IATA-max. quantity - Cargo:60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

## **SECTION 15: Regulatory information**

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

### **EU** regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to Directive

2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)



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**National regulatory information** 

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile

work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

### **SECTION 16: Other information**

### Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals

Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage

### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Acute Tox. 4; H302	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method

### Relevant H and EUH statements (number and full text)

H290 May be corrosive to metals. H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

### **Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)