

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## ortho-Phosphoric acid 50 %, extra pure

article number: **4336**  
Version: **3.0 en**  
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Version: (2)

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

### 1.1 Product identifier

Identification of the substance	<b>ortho-Phosphoric acid</b> 50 %, extra pure
Article number	4336
Registration number (REACH)	not relevant (mixture)
Index No	[ 015-011-00-6 ]
EC number	[ 231-633-2 ]
CAS number	[ 7664-38-2 ]

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

**Identified uses:** laboratory chemical  
laboratory and analytical use

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: : Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	(Met. Corr. 1)	H290
3.2	skin corrosion/irritation	(Skin Corr. 1B)	H314
3.3	serious eye damage/eye irritation	(Eye Dam. 1)	H318

### 2.2 Label elements

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

**Signal word**                      **Danger**

### Pictograms

GHS05



### Hazard statements

H290                                      May be corrosive to metals  
H314                                      Causes severe skin burns and eye damage

### Precautionary statements

#### **Precautionary statements - prevention**

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

#### **Precautionary statements - response**

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

**Hazardous ingredients for labelling:**                                      ortho-Phosphoric acid

### **Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Danger**

Symbol(s)



H314                                      Causes severe skin burns and eye damage.  
P280                                      Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331                      IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
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.  
contains:                                      Ortho-Phosphoric acid

## 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### **Description of the mixture**

Composition/information on ingredients.

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Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms	Specific Conc. Limits
ortho-Phosphoric acid	CAS No 7664-38-2  EC No 231-633-2  Index No 015-011-00-6  REACH Reg. No 01-2119485924- 24-xxxx	25 – 75	Met. Corr. 1 / H290 Skin Corr. 1B / H314 Eye Dam. 1 / H318		Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %

### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

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. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Call a physician immediately.

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

Following inhalation: Cough, pain, choking, and breathing difficulties,  
Following skin contact: Causes severe burns, Causes poorly healing wounds,  
After eye contact: Risk of serious damage to eyes, Risk of blindness,  
Following ingestion: Corrosion, Vomiting, Gastric perforation

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: phosphorus oxides (P<sub>x</sub>O<sub>y</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

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

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Handle and open container with care. Clear contaminated areas thoroughly. When diluting/dissolving, always have the water ready first, then slowly stir in the product.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

##### • Ventilation requirements

Use local and general ventilation.

##### • Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C.

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Source
EU	orthophosphoric acid	7664-38-2		IOELV		1		2			2000/39/EC
MT	orthophosphoric acid	7664-38-2		OELV		1		2			CAP. 424

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

##### Relevant DNELs/DMELs/PNECs and other threshold levels

##### • relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
ortho-Phosphoric acid	7664-38-2	DNEL	2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
ortho-Phosphoric acid	7664-38-2	DNEL	1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects

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### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection. Wear face protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

##### • type of material

NBR (Nitrile rubber)

##### • material thickness

>0,3 mm

##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. P2 (filters at least 94 % of airborne particles, colour code: White).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

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### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	odourless
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	<1 (20 °C)
Melting point/freezing point	-41,9 °C
Initial boiling point and boiling range	108 °C
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	2 hPa at 20 °C
Density	1,33 g/cm <sup>3</sup>
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

#### 9.2 Other information

There is no additional information.

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Substance or mixture corrosive to metals.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 10.3 Possibility of hazardous reactions

Violent reaction with: Alkalis

Dangerous/dangerous reactions with: Metals (due to the release of hydrogen in an acid/alkaline medium)

=> Danger of explosion

#### 10.4 Conditions to avoid

Keep away from heat.

#### 10.5 Incompatible materials

different metals

#### Release of flammable materials with

metals (due to the release of hydrogen in an acid/alkaline medium)

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Causes severe burns.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

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

Shall not be classified as a specific target organ toxicant (single exposure).

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

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.



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### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

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

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

cough, pain, choking, and breathing difficulties, corrosive to the respiratory tract

#### • If on skin

causes severe burns, causes poorly healing wounds

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

#### Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ortho-Phosphoric acid	7664-38-2	EC50	>100 mg/l	aquatic invertebrates	48 h
ortho-Phosphoric acid	7664-38-2	ErC50	>100 mg/l	algae	72 h

#### Aquatic toxicity (chronic)

#### Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
ortho-Phosphoric acid	7664-38-2	EC50	>1.000 mg/l	microorganisms	3 h

### 12.2 Process of degradability

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

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

##### Sewage disposal-relevant information

Do not empty into drains.

##### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.


#### 13.2 Relevant provisions relating to waste

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

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

### SECTION 14: Transport information

14.1	UN number	1805
14.2	UN proper shipping name	PHOSPHORIC ACID, SOLUTION
	Hazardous ingredients	PHOSPHORIC ACID, SOLUTION
14.3	Transport hazard class(es)	
	Class	8 (corrosive substances)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
14.6	Special precautions for user	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
	The cargo is not intended to be carried in bulk.	
14.8	Information for each of the UN Model Regulations	
	• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)	
	UN number	1805
	Proper shipping name	PHOSPHORIC ACID, SOLUTION
	Particulars in the transport document	UN1805, PHOSPHORIC ACID, SOLUTION, 8, III, (E)
	Class	8
	Classification code	C1

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Packing group III

Danger label(s) 8



Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

Transport category (TC) 3

Tunnel restriction code (TRC) E

Hazard identification No 80

### • International Maritime Dangerous Goods Code (IMDG)

UN number 1805

Proper shipping name PHOSPHORIC ACID, SOLUTION

Particulars in the shipper's declaration UN1805, PHOSPHORIC ACID, SOLUTION, 8, III

Class 8

Marine pollutant -

Packing group III

Danger label(s) 8



Special provisions (SP) 223

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

EmS F-A, S-B

Stowage category A

Segregation group 1 - Acids

### • International Civil Aviation Organization (ICAO-IATA/DGR)

UN number 1805

Proper shipping name Phosphoric acid, solution

Particulars in the shipper's declaration UN1805, Phosphoric acid, solution, 8, III

Class 8

Packing group III

Danger label(s) 8



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Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	1 L

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients are listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

None of the ingredients are listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

None of the ingredients are listed.

- **Restrictions according to REACH, Annex XVII**

Name of substance	Type of registration	Conditions of restriction	No
ortho-Phosphoric acid	1907/2006/EC annex XVII	R3	3

#### Legend

R3

1. Shall not be used in:
  - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
  - tricks and jokes,
  - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
  - can be used as fuel in decorative oil lamps for supply to the general public, and,
  - present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
  - (a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
  - (b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';
  - (c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

- **Restrictions according to REACH, Title VIII**

None.

- **List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list**

none of the ingredients are listed

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### • Seveso Directive

#### 2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

### • Directive 75/324/EEC relating to aerosol dispensers

#### Filling batch

#### Deco-Paint Directive (2004/42/EC)

VOC content	0 %
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#### Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content	0 %
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#### Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

None of the ingredients are listed.

#### Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

#### Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

None of the ingredients are listed.

#### Regulation 98/2013/EU on the marketing and use of explosives precursors

none of the ingredients are listed

#### Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

none of the ingredients are listed

### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed

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Country	National inventories	Status
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.1		Index No: [ 015-011-00-6 ]	yes
1.1		EC number: [ 231-633-2 ]	yes
1.1		CAS number: [ 7664-38-2 ]	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAP. 424	Occupational Health and Safety Authority Act (CAP. 424)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level

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Abbr.	Descriptions of used abbreviations
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	substance or mixture corrosive to metals
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STEL	short-term exposure limit
SVHC	Substance of Very High Concern
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## ortho-Phosphoric acid 50 %, extra pure

article number: 4336

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### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H290	may be corrosive to metals
H314	causes severe skin burns and eye damage
H318	causes serious eye damage

### Disclaimer

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.