

# Safety data sheet

## according to UK REACH

Printing date 02.10.2024

Version number 3 (replaces version 2)

Revision: 02.10.2024

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

- **Product identifier**

- **Trade name: Phosphoric Acid 85%**

- **Article number:**

20-5501-05 (500ml)

20-5501-10 (1,000ml)

- **Registration number** Mixture

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

- **Product category** PC21 Laboratory chemicals

- **Application of the substance / the mixture** Laboratory reagent

- **Uses advised against**

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Any use involving significant release of aerosol, vapour or dust in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).

Processes involving the use of incompatible substances - refer to section 10.

Processes involving extreme heat use advised against.

The product is intended exclusively for industrial and professional use.

- **Details of the supplier of the safety data sheet**

- **Supplier:**

Severn Biotech Ltd.

Unit 2,

Park Lane,

Kidderminster,

Worcestershire.

DY11 6TJ

UK

Tel: 0044 1562 825286

Fax: 0044 1562 825284

email: info@severnbiotech.com

- **Further information obtainable from:** Product safety department.

- **Emergency telephone number:**

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

### SECTION 2: Hazards identification

- **Classification of the substance or mixture**

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**

- **Hazard pictograms**



GHS05

- **Signal word** Danger

- **Hazard-determining components of labelling:**

Phosphoric acid

- **Hazard statements**

H314 Causes severe skin burns and eye damage.

- **Precautionary statements**

P260 Do not breathe mist/vapours/spray.

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

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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.

P337+P313 If eye irritation persists: Get medical advice/attention.

- **Additional information:** Acquisition, possession or use by the general public is restricted.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.


- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **Mixtures**

- **Description:** Aqueous solution.

- **Dangerous components:**

CAS: 7664-38-2 EINECS: 231-633-2 Reg.nr.: 01-2119485924-24-XXXX	Phosphoric acid	50 – 100%
	 Skin Corr. 1B, H314 Note: B Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:**

In case of inhalation:

- Provide fresh air.

- In case of breathing difficulties administer oxygen.

- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.

- Do not leave patient unattended.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

- **After eye contact:**

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

- **Information for doctor:** Treat symptomatically and supportively.

- **Most important symptoms and effects, both acute and delayed** Corrosive damage to gastro-intestinal tract.

- **Hazards**

Danger of gastric perforation.

Danger of pulmonary oedema.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray.  
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Corrosive liquid.  
In case of fire, the following can be released:  
Phosphorous oxides
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.
- **Additional information**  
Cool endangered receptacles with water spray.  
Absorb gas/vapours with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Consult an expert in the event of a large spillage.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow to enter sewers/ surface or ground water.  
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.  
Lime slurry can be used to neutralize material (e.g. 10 - 50% potassium carbonate solution or 10 - 30% sodium carbonate solution).  
Wash the area with plenty of water.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **Precautions for safe handling**  
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Safety showers and eye wash facilities should be available at the work area.  
Never add water to the product. Always add product to large quantities of water.

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- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Prevent any seepage into the ground.  
Store only in the original receptacle.
- **Information about storage in one common storage facility:**  
Store away from metals.  
Do not store together with alkalis (caustic solutions).  
Store away from foodstuffs.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.  
Store in a bunded area.
- **Storage class:** 8 B
- **Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

**CAS: 7664-38-2 Phosphoric acid**

WEL	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
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- **DNELs**

**CAS: 7664-38-2 Phosphoric acid**

Oral	Long-term systemic effects	100 µg/kg bw/day (general population)
Inhalative	Long-term systemic effects	4.57 mg/m <sup>3</sup> (general population)
		10.7 mg/m <sup>3</sup> (worker)
	Long-term local effects	1 mg/m <sup>3</sup> (worker)
	Short-term local effects	2 mg/m <sup>3</sup> (worker)
	Long-term local effects	360 µg/m <sup>3</sup> (general population)

- **PNECs**

No hazards identified.

No potential for bioaccumulation.

- **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**

- **Appropriate engineering controls** No further data; see section 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

Take note of assigned Workplace Exposure Limits.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Do not inhale gases / fumes / aerosols.

A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.

Ensure that eyewash stations and safety showers are close to the workstation location.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

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Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

- **Hand protection**



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection**



Face shield/visor.

Use equipment tested and approved under appropriate government standards such as EN166 (EU) or NIOSH (US)



Tightly sealed goggles conforming to EN166.

Use visor in combination with goggles.

- **Body protection:**



Protective work clothing

Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by the product. Suitable protective equipment may include: Chemical resistant boots, Chemical resistant apron, Full chemical protective suit with a hood, Chemical protective suit consisting of a jacket and trousers. The jacket should be buttoned up to the neck, sleeves sealed at the gloves, and trouser legs worn outside the boots. These precautions are required to prevent the clothing from accidentally trapping product against the skin.

- **Environmental exposure controls** Do not allow to enter drains, sewers or watercourses.

- **Risk management measures** The operators shall be instructed adequately.

### SECTION 9: Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

· <b>Physical state</b>	Fluid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Mild
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	100 °C
· <b>Flammability</b>	Not applicable.

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· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH at 20 °C</b>	1 – 2
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not determined.
· <b>Dynamic:</b>	Not determined.
· <b>Solubility</b>	
· <b>water:</b>	Fully miscible.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density and/or relative density</b>	
· <b>Density at 20 °C:</b>	1.75 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.

· <b>Other information</b>	
· <b>Appearance:</b>	
· <b>Form:</b>	Liquid
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Ignition temperature:</b>	Product is not self-igniting.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Solvent content:</b>	
· <b>VOC (EC)</b>	0.00 %
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not determined.

· <b>Information with regard to physical hazard classes</b>	
· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Void
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Void
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	May intensify fire; oxidiser.
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	Void

### SECTION 10: Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
Reacts violently with oxidising agents.  
Reacts with numerous chemical compounds, especially those with mobile hydrogen atoms.

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- Reacts with metals forming hydrogen.
- Reacts with alkali (lyes).
- Heating occurs when water is added.
- **Conditions to avoid** Heat and static discharge.
- **Incompatible materials:**
  - Strong bases.
  - Strong oxidising agents.
  - Substances specifically listed in section 10.3 as incompatible.
- **Hazardous decomposition products:** Phosphorus oxides (e.g. P2O5)

### SECTION 11: Toxicological information

- **Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

<b>CAS: 7664-38-2 Phosphoric acid</b>		
Dermal	LD50	2,740 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.
- **Additional toxicological information:**

ROUTES OF EXPOSURE: Can be absorbed into the body by inhalation and by ingestion.

Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

- **Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients are listed.
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### SECTION 12: Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** Inorganic substance: not applicable
- **Bioaccumulative potential** Product is not expected to bioaccumulate.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.
- **Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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- **Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
 Must not reach sewage water or drainage ditch undiluted or unneutralised.  
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### SECTION 13: Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
 Recommended Hierarchy of Controls:
  - Minimise waste;
  - Reuse if not contaminated;
  - Recycle, if possible; or
  - Safe disposal (if all else fails).
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
 Contact waste processors for recycling information.  
 Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **Uncleaned packaging:**
- **Recommendation:**  
 Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.  
 Disposal must be made according to official regulations.  
 Container remains hazardous when empty. Continue to observe all precautions.  
 Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **UN number or ID number**
- **ADR/RID/ADN, IMDG, IATA** UN1805
- **UN proper shipping name**
- **ADR/RID/ADN** UN1805 PHOSPHORIC ACID, SOLUTION
- **IMDG, IATA** PHOSPHORIC ACID, SOLUTION
- **Transport hazard class(es)**
- **ADR/RID/ADN**
- 
- **Class** 8 (C2) Corrosive substances.
- **Label** 8
- **IMDG, IATA**
- 
- **Class** 8 Corrosive substances.
- **Label** 8

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· <b>Packing group</b> · <b>ADR/RID/ADN, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b>	Warning: Corrosive substances. 80
· <b>Hazchem Code:</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Segregation Code</b>	2R F-A,S-B (SGG1) Acids A SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
· <b>Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR/RID/ADN</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	3 E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1805 PHOSPHORIC ACID, SOLUTION, 8, III

### SECTION 15: Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Poisons Act

#### · Regulated explosives precursors

CAS: 7664-38-2	Phosphoric acid	30%
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#### · Regulated poisons

None of the ingredients are listed.

#### · Reportable explosives precursors

None of the ingredients are listed.

#### · Reportable poisons

None of the ingredients are listed.

#### · GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

#### · Hazard pictograms



GHS05

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- **Signal word** Danger
- **Hazard-determining components of labelling:**  
Phosphoric acid
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P260 Do not breathe mist/vapours/spray.  
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.  
P337+P313 If eye irritation persists: Get medical advice/attention.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients are listed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.  
This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Relevant phrases**  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.
- **Training hints**  
This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.
- **Department issuing SDS:** Product safety department.
- **Abbreviations and acronyms:**  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
DNEL: Derived No-Effect Level (UK REACH)  
PNEC: Predicted No-Effect Concentration (UK REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
ATE: Acute toxicity estimate values  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- **\* Data compared to the previous version altered.**

GB