# Safety data sheet
## according to UK REACH (SI 2020/1577) as amended

Printing date 07.03.2025 Version number 2 Revision: 07.03.2025

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

· **1.1 Product identifier**

· **Trade name: PE Buffer**

· **Product Code:** 20-4200-05

· **Registration number** Mixture
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Product category** PC21 Laboratory chemicals
· **Application of the substance / the mixture** Laboratory chemicals
· **Uses advised against**
Processes involving extreme heat use 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 aerosol formation or vapour release in excess of the assigned Workplace Exposure Limit where workers are exposed without suitable Respiratory Protective Equipment.

· **1.3 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.
· **1.4 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

· **2.1 Classification of the substance or mixture**
· **Classification according to GB-CLP**

Eye Dam. 1 H318 Causes serious eye damage.

· **2.2 Label elements**
· **Labelling according to GB-CLP** The product is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**

GHS05

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Tetrasodium pyrophosphate

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· **Hazard statements**
H318 Causes serious eye damage.
· **Precautionary statements**
P280 Wear eye protection / face protection.
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.

| · **The Detergents (Amendment) (EU Exit) Regulations 2020 / Labelling for contents** | |
|---|---|
| EDTA and salts thereof | <5% |

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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## SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

| · **Dangerous components:** | | |
|---|---|---|
| CAS: 60-00-4<br>EINECS: 200-449-4<br>Index number: 607-429-00-8<br>Reg.nr.: 01-2119486399-18-XXXX | EDTA acid<br>Eye Irrit. 2, H319 | 2.5 – < 10% |
| CAS: 7722-88-5<br>EINECS: 231-767-1<br>Reg.nr.: 01-2119489794-17-XXXX | Tetrasodium pyrophosphate<br>Eye Dam. 1, H318; Acute Tox. 4, H302 | 3 – 10% |

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

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## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
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.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.



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## * SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Phosphorous oxides
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

## * SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course in the undiluted form.
· **6.3 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.
· **6.4 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

· **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Ensure good ventilation/exhaustion at the workplace.
· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:**
Protect from frost.
Store in cool, dry conditions in well sealed receptacles.

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· **Storage class:** 12
· **7.3 Specific end use(s)** No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

| · **Ingredients with limit values that require monitoring at the workplace:** | |
|---|---|
| **CAS: 7722-88-5 Tetrasodium pyrophosphate** | |
| WEL | Long-term value: 5 mg/m³ |

| · **DNELs** | | |
|---|---|---|
| **CAS: 60-00-4 EDTA acid** | | |
| Oral | Long-term systemic effects | 25 mg/kg bw/day (general population) |
| Inhalative | Long-term systemic effects | 1.5 mg/m³ (worker) |
| | Short-term systemic effects | 3 mg/m³ (worker) |
| | Short-term local effects | 1.2 mg/m³ (general population) |
| | | 3 mg/m³ (worker) |
| | Long-term local effects | 600 µg/m³ (general population) |
| | | 1,500 µg/m³ (worker) |
| **CAS: 7722-88-5 Tetrasodium pyrophosphate** | | |
| Inhalative | Long-term systemic effects | 4.35 mg/m³ (general population) |
| | | 17.63 mg/m³ (worker) |

| · **PNECs** | |
|---|---|
| **CAS: 60-00-4 EDTA acid** | |
| Freshwater | 2.17 mg/L |
| Marine water | 217 µg/L |
| Sewage Treatment Plant | 50 mg/L |
| Soil | 1.11 mg/kg |
| **CAS: 7722-88-5 Tetrasodium pyrophosphate** | |
| Freshwater | 50 µg/L |
| Freshwater - Intermittent releases | 500 µg/L |
| Marine water | 5 µg/L |
| Sewage Treatment Plant | 50 mg/L |

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

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Take note of assigned Workplace Exposure Limits.
Do not eat, drink, smoke or sniff while working.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

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· **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**

Safety glasses with side-shields conforming to EN166.
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Goggles recommended during refilling

· **Body protection:**

Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

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

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

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## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · **9.1 Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Physical state** | Liquid |
| · **Colour:** | Light yellow |
| · **Odour:** | Mild |
| · **Odour threshold:** | Not determined. |
| · **Melting point/freezing point:** | Undetermined. |
| · **Boiling point or initial boiling point and boiling range** | Undetermined. |
| · **Flammability** | Not applicable. |
| · **Lower and upper explosion limit** | |
| · **Lower:** | Not determined. |
| · **Upper:** | Not determined. |
| · **Flash point:** | Not applicable. |
| · **Decomposition temperature:** | Not determined. |
| · **pH** | Not determined. |
| · **Viscosity:** | |
| · **Kinematic viscosity** | Not determined. |
| · **Dynamic:** | Not determined. |

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| | |
|---|---|
| · **Solubility** | |
| · **water:** | Fully miscible. |
| · **Partition coefficient n-octanol/water (log value)** | Not determined. |
| · **Vapour pressure at 20 °C:** | 23 hPa |
| · **Density and/or relative density** | |
| · **Density at 20 °C:** | 1.1 g/cm³ |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not determined. |
| · **9.2 Other information** | NOTE: The physical data presented above are typical values and should not be construed as a specification. |
| · **Appearance:** | |
| · **Form:** | Fluid |
| · **Important information on protection of health and environment, and on safety.** | |
| · **Ignition temperature:** | Product is not self-igniting. |
| · **Explosive properties:** | Product does not present an explosion hazard. |
| · **Solvent content:** | |
| · **VOC (EC)** | 0.00 % |
| · **Change in condition** | |
| · **Evaporation rate** | Not determined. |
| · **Information with regard to physical hazard classes** | |
| · **Explosives** | Void |
| · **Flammable gases** | Void |
| · **Aerosols** | Void |
| · **Oxidising gases** | Void |
| · **Gases under pressure** | Void |
| · **Flammable liquids** | Void |
| · **Flammable solids** | Void |
| · **Self-reactive substances and mixtures** | Void |
| · **Pyrophoric liquids** | Void |
| · **Pyrophoric solids** | Void |
| · **Self-heating substances and mixtures** | Void |
| · **Substances and mixtures, which emit flammable gases in contact with water** | Void |
| · **Oxidising liquids** | Void |
| · **Oxidising solids** | Void |
| · **Organic peroxides** | Void |
| · **Corrosive to metals** | Void |
| · **Desensitised explosives** | Void |

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## SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** Heat and static discharge.
· **10.5 Incompatible materials:** Strong acids and oxidising agents

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· **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Phosphorus compounds

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## SECTION 11: Toxicological information

· **11.1 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:** | | |
|---|---|---|
| **ATE (Acute Toxicity Estimates)** | | |
| Oral | LD50 | 40,600 mg/kg (rat) |

| **CAS: 60-00-4 EDTA acid** | | |
|---|---|---|
| Oral | LD50 | > 2,000 mg/kg (rat) |
| **CAS: 7722-88-5 Tetrasodium pyrophosphate** | | |
| Oral | LD50 | 1,624 mg/kg (rat) |
| Dermal | LD50 | > 2,000 mg/kg (rabbit) |

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **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.
· **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
· **11.2 Information on other hazards**

| · **Endocrine disrupting properties** |
|---|
| None of the ingredients are listed. |

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## SECTION 12: Ecological information

· **12.1 Toxicity**

| · **Aquatic toxicity:** | |
|---|---|
| **CAS: 60-00-4 EDTA acid** | |
| EC50 (96 h) | > 500 mg/l (Bacteria) |
| **CAS: 7722-88-5 Tetrasodium pyrophosphate** | |
| EC50 (96 h) | 100 mg/l (Algae) |
| EC50 (72 h) | 100 mg/l (Algae) |
| EC50 (3 h) | 1,000 mg/L (microorganisms) |

· **12.2 Persistence and degradability** The organic portion of the product is biodegradable.
· **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.

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· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
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.

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## SECTION 13: Disposal considerations

· **13.1 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.
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

| | |
|---|---|
| · **14.1 UN number or ID number** | Void |
| · **ADR/RID/ADN, ADN, IMDG, IATA** | Not applicable |
| · **14.2 UN proper shipping name** | Void |
| · **ADR/RID/ADN, ADN, IMDG, IATA** | Not applicable |
| · **14.3 Transport hazard class(es)** | Void |
| · **ADR/RID/ADN, ADN, IMDG, IATA** | |
| · **Class** | Not applicable |
| · **14.4 Packing group** | Void |
| · **ADR/RID/ADN, IMDG, IATA** | Not applicable |
| · **14.5 Environmental hazards:** | |
| · **Marine pollutant:** | No |

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| | |
|---|---|
| · **14.6 Special precautions for user** | Not applicable. |
| · **14.7 Maritime transport in bulk according to IMO instruments** | Not applicable. |
| · **Transport/Additional information:** | Not dangerous according to the above specifications. |
| · **UN "Model Regulation":** | Not applicable |

## SECTION 15: Regulatory information

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

· **Regulated explosives precursors**
None of the ingredients are listed.

· **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.

· **Control Of Major Accident Hazards Regulations 2015 (COMAH)**
· **Named dangerous substances - ANNEX I** None of the ingredients are listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## 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**
H302 Harmful if swallowed.
H318 Causes serious eye damage.
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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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)

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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
Acute Tox. 4: Acute toxicity – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
· *** Data compared to the previous version altered.**