SAFETY DATA SHEET

According to Reg. (EC) No. 1907/2006 modified by Reg. (EU) No 2020/878

Section 1: Identification of mixture and of the company/undertaking

1.1. Product identifier: **PERFECT ACID – acidic detergent**

1.2. Relevant identified uses: liquid foaming acidic detergent – for professional use
Uses advised against: uses other than above

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

ALPHAVET Zrt.
Headquarters: H-1194 Budapest, Hofherr Albert u. 42., Hungary
Location: H-8000 Székesfehérvár, Homoksor 7. Hungary
Phone: +36 22 516 408
www.alphavet.eu

E-mail address of the person responsible for the safety data sheet: info@alpha-vet.hu

1.4. Emergency phone numbers
Poison Control Centres in EU: https://poisoncentres.echa.europa.eu/appointed-bodies
https://echa.europa.eu/hu/support/helpdesks
Hungarian Health & Toxicological Information Service: Working hours: +36 1 4766464
24 hrs service: +36 80 201199

Section 2: Hazard identification

2.1. Classification of the mixture: the product is **hazardous mixture** according to manufacturer and in compliance with Reg. (EC) No 1272/2008 and its modifications.

Classification		Hazard Class	Hazard category
Physical hazard:	classification is not necessary		
Health hazard:	Skin Corr. 1B	Skin Corrosion/Skin irritation	1B
	Eye Dam. 1	Serious Eye Damage/Eye Irritation	1
Environmental hazard:	Aquatic Chronic 3	Long-term aquatic hazard	3

2.2. Label elements
Pictogram: GHS05
Signal word: DANGER

DANGER

Hazard statements:
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effect.

Precautionary statements:
P261 Avoid breathing mist, vapours, spray.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye protection/face protection.
P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER, doctor.
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.
P501 Dispose of contents/container: transport to hazardous waste landfill site.

Hazard determinant component: orthophosphoric acid,
amines, $C_{12\text{-}14}$ (even numbered)alkyldimethyl, N-oxides

Ingredients according to Reg. (EC) No 648/2004: 15 – 30% phosphates,
less than 5%: non-ionic surfactants,
less than 5%: phosphonates.

2.3. Other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Reg. (EU) 2017/2100 or Reg. (EU) 2018/605 at a concentration equal to or greater than 0.1%.
The components of the mixture are not considered as PBT/vPvB substances according annex XIII of REACH regulation. The mixture does not contain any components that has been listed in the Candidate List of Substance of Very High Concern under REACH regulation; https://echa.europa.eu/en/candidate-list-table

The mixture is a strongly acidic aqueous solution that reacts with preparations containing active chlorine to form toxic chlorine gas. Reacts violently with alkalis. It may attack metals, may be corrosive (copper, aluminium, ferrous alloys). Inhalation of spray may irritate respiratory tract.

Section 3: Composition/information on ingredients

3.1. Substances: not relevant.

3.2. Mixtures: the product is a mixture, aqueous solution.

Hazardous components of the mixture which must be listed according to Reg. (EU) No 2020/878:

Hazardous components	Concentration	Hazard class, category, H-statement
Orthophosphoric acid* CAS No: 7664-38-2 EC No: 231-633-2 Index No: 015-011-00-6	25 – 30%	Skin Corr. 1B, H314; Eye Dam. 1, H318
Amines, C_{12-14} (even numbered)alkyl dimethyl, N-oxides** CAS No: 308062-28-4 EC No: 931-292-6	<5%	Acute Tox. (oral) 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Acute 1, H400, M_{acute}: 1; Aquatic Chronic 2, H411
2-(2-butoxyethoxy)ethanol (butyl diglycol)* CAS No: 112-34-5 EC No: 203-961-6 Index No: 603-096-00-8	3 – 5%	Eye Irrit. 2, H319
1-Hydroxyethylidene-diphosphonic acid** (Etidronic acid) CAS No: 2809-21-4 EC No: 220-552-8	1 – <3%	Met. Corr. 1, H290; Acute Tox. (oral) 4, H302; Eye Dam. 1, H318

* Specific concentration limits for orthophosphoric acid, where c: concentration:
if the concentration: 10% ≤ c < 25%: Skin Irrit. 2 and Eye Irrit. 2; H315 and H319;
if the concentration > 25%: Skin Corr. 1B, H314

** no harmonised classification is available, the indicated classification is provided by the manufacturer or supplier

Components with occupational exposure limit values (orthophosphoric acid, butyl diglycol) see Section 8.

The other components of the product are not hazardous, or their concentrations are low enough not to take into consideration in the classification and labelling of the mixture according to the relevant regulations.

Hazard classes, H-statements relate to pure components.
Hazard classification of the product is given in Section 2. Full texts of the H-statements and hazard classes, categories are listed in Section 16.

Section 4: First Aid measures

4.1. Description of first aid measures

Professional and prompt first aid can greatly reduce the symptoms and their severity.

General advice: in case of poisoning or suspected poisoning work must be stopped immediately. After first aid on the spot, medical care must be provided. Move the injured person away from the source of the exposure. Remove contaminated clothing and footwear. Do not give an unconscious or convulsing patient any fluids to drink and do not induce vomiting!

In the case of inhalation: move victim to fresh air, provide rest and warm, loose tight clothing. If breathing becomes difficult call a doctor immediately.
In case of eye contact: immediately flush eyes thoroughly with running water for at least 10 minutes, while pulling the eyelids apart and moving the eyeball constantly. Remove contact lenses if possible. Apply a sterile gauze dressing and consult an ophthalmologist.
In case of skin contact: after removing contaminated clothing, rinse skin thoroughly with plenty of running water. In case of persistent skin irritation or extensive abrasion seek medical attention.
In case of ingestion: if the victim is conscious rinse the oral cavity thoroughly with water and give drink of water. DO NOT INDUCE VOMITING, because of the risk of re-injury! Take care that no foam enters the lungs during spontaneous vomiting! Contact POSION CONTROL CENTER or doctor immediately, show the label and/or safety data sheet.
4.2. Main symptoms and effects - acute and delayed: corrosive effects, serious eye damage. If first aid is not thorough enough or does not last long enough delayed effects may occur and increase the severity of the injury.

4.3. Indication of immediate medical attention and special care required: if toxic symptoms develop or suspicion of intoxication occurs, stop the work and provide first aid and then seek medical advice immediately. Show the label and safety data sheet of the product.

Note to the physician: Treat symptomatically.

Section 5: Fire-fighting measures

5.1. Extinguishing media: water spray, carbon dioxide, fire-extinguishing powder or foam
Extinguishing media and measures have to suit the surroundings.
Unsuitable extinguishing media: strong water jet

5.2. Special hazard arising from the mixture: combustion and decomposition may produce toxic and corrosive gas, vapour containing phosphor oxides, carbon oxides, etc.

5.3. Advice for firefighters: full protective equipment and breathing apparatus independent of ambient air. Keep unauthorized persons away. If it can be done without risk, remove containers from the danger zone. Avoid inhalation of toxic gases and fumes. Contaminated fire water should be collected separately and do not allow it to enter into drains and water-bodies. Cool containers exposed to fire with water fog.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedure:
Avoid exposure to the product, use protective equipment when collecting, discharging large quantities of spillage; see Section 8. Only trained persons wearing protective equipment should be involved in containment and cleaning up procedures.

6.2. Environmental precautions: stop leakage, prevent spillage from spreading and entering soil, surface and ground water, drains, cellars.

6.3. Methods and material for containment and cleaning up: contain large spillage and cover with inert absorbent material (sand, soil, vermiculite, diatomaceous earth). Collect the contaminated sorbent, store it properly labelled container and send for disposal.
Do not allow mixing with alkaline or active chlorine containing substances.
The residue should be cleaned up by mopping up with water and rinsing with plenty of water. Dispose of in accordance with local regulations.
Small amounts of spillage should be rinsed off with plenty of water. Pay attention to the risk of slipping.

6.4. Reference to other sections: see Section 7, 8 and 13.

Section 7: Handling and storage

7.1. Precautions for safe handling
Comply with the user's instructions. Observe precautions stated on label. Handle with the usual precautions for chemicals! Working areas should be well ventilated. Prevent accidental eye and skin contact. Avoid splashing, spilling and inhalation of sprays. Use the product only with adequate ventilation.
Follow general hygiene and occupational safety measurements. See Section 8.
Do not mix with other cleaning products, alkaline or active chlorine preparations.
Do not eat, drink or smoke while working.

Wash hands after work, clean thoroughly and, if possible, take a shower.
Do not eat, drink and smoke during handling.

Specific measures in case of fire and explosion: no special measures required.

7.2. Conditions for safe storage, including any incompatibilities

Store in a tightly closed original container in a cool, well-ventilated, frost-free place, away from alkalis, active chlorine cleaning agents, away from food, drink, feed, away from children, standing upright! Keep away from heat sources.

7.3. Specific end use: acidic detergent for professional use. Users should always read the instructions for use and follow the instructions for safe handling and use.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values:

Phosphoric acid: TWA: 1 mg/m^3; STEL: 2 mg/m^3 – Dir. (EC) No 2000/39
2-(2-butoxyethoxy) ethanol: TWA: 67.5 mg/m^3; STEL: 101.2 mg/m^3 – Dir. (EC) No 2006/15

If the hazardous substance is not regulated by limit values, the employer is obliged to reduce the level of exposure to the lowest level where no harmful effects on health can be expected according to the current state of knowledge.

8.2. Exposure controls

Care should be taken to prevent spillage, skin contact, eye contact and accidental ingestion. Do not get on mucous membranes, skin or open wounds. Work must be carried out in accordance with the general safety and hygiene rules for working with chemicals. Users must be informed of the hazards of the product and the health and safety requirements for its use.

Technical measures

- The usual protective measures for chemicals must be observed.
- When used in confined spaces, adequate ventilation must be provided.
- Provide protective equipment, eye wash cup/bottle, washing/shower facilities.

Hygiene measures

- Do not eat, drink or smoke while working.
- Wash hands thoroughly during breaks and after finishing work.
- Keep away from food, drinks and animal feed.

Personal protective equipment

- **Respiratory system protection:** not necessary with adequate ventilation. If the concentration of phosphoric acid in the air exceeds the occupational exposure limits and in case of poor ventilation or spray application, respiratory protection according to EN 149 or EN 143 is required.
- **Eye/face protection:** use of EN 166 standard compliant tight-fitting chemical safety goggles or face mask. Always wear safety goggles if eye contact is possible, if there is a risk of splashing into the eyes; e.g. handling large quantities, industrial operations, decontamination, during dilution of the product, preparation of working solution, etc.
- **Hand protection:** chemical resistant protective gloves that comply with EN374 standard. When selecting the glove take into account the exposure arising from the product application (short or long contact time, mechanical stress, risk of full contact, risk of splashing, etc.) and the manufacturer's specifications for permeability and mechanical resistance of gloves, specific working condition and composition of the product.
  Recommended glove material: butyl rubber, nitril rubber (NBR), fluorinated rubber.
- **Body protection:** avoid contact with skin. Depending on the risk use protective clothing and footwear. Wear apron, protective clothing according to EN 465-468, EN 13034 standards and use protective footwear according to EN 344, EN 13832 standards.

Environmental exposure control: avoid accidental release of the product into the environment.

The information above relates to professional and intended use in average circumstances. If operation is done in different or exceptional circumstances, you should consult an expert to decide on additional necessary actions and personal protective equipment.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Appearance:	liquid, aqueous solution
Colour:	colourless
Odour:	not characteristic
Odour threshold:	not determined
pH at 20°C:	cc. 1.00
Freezing point:	not available
Boiling point:	approx. 100°C
Flash point:	non-flammable aqueous solution; >70°C (estimated)
Evaporation rate:	no data
Flammability (gas, solid):	not relevant
Explosion limits:	not relevant, aqueous solution
Vapour pressure/vapour density:	not available
Density at 20°C:	1.18 ± 0.02 g/cm^3
Water solubility:	freely miscible, unlimited
Auto-ignition temperature:	not available
Decomposition temperature:	no data
Viscosity:	no data
Partition coefficient (log $P_{o/w}$):	not relevant, the product is a mixture
Explosion hazard:	no explosion hazard
Oxidizing properties:	not oxidizing

9.2. Other information

Information on physical hazard classes: the mixture is not classified in any of the physical hazard classes.

Other safety characteristics: keep away from incompatible substances, mixtures (preparations containing active chlorine, alkalis, etc.).

Section 10: Stability and reactivity

10.1. Reactivity: the product is a strongly acidic solution. Reacts with alkalis and active chlorine containing substances and preparations. May be corrosive to metals (aluminium).

10.2. Chemical stability: it is stable under normal conditions (normal temperature and pressure); recommended storage conditions is given in Section 7.2.

10.3. Possibility of hazardous reactions: reacts with active chlorine containing bleaching agents and toxic chlorine gas may develop. The product is strongly acidic it reacts with alkalis and alkaline mixtures.

10.4 Conditions to avoid: heat, frost, contact with alkalis, active chlorinated preparations (e.g. hypo solutions).

10.5. Incompatible materials: alkalis, active chlorine cleaning agents, oxidising agents. Do not mix with other preparations, alkaline cleaning products.

10.6. Hazardous decomposition product: no hazardous decomposition occurs, if stored and handled properly.

Section 11: Toxicological information

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

No targeted toxicological studies are available. Assessment of toxicological properties is based on composition and classification criteria of Reg. (EC) No 1272/2008.

Acute toxicity (oral, dermal, inhalation): the mixture does not meet the criteria for classification into the acute toxicity hazard classes according to the ATE_{mix} values.

Skin corrosion/irritation: based on composition the classification criteria are met: Skin Corr. 1B.

Serious eye damage/eye irritation: based on composition the classification criteria are met: Eye Dam. 1.

Respiratory or skin sensitization: based on available information and data the classification criteria are not met.

Carcinogenicity: classification criteria are not met as none of the components is classified as carcinogen.

Germ-cell mutagenicity: based on available data classification criteria are not met, components are not mutagenic.

Reproductive toxicity: based on available data and information classification criteria are not met. None of the components is known as being reproductive toxic.

Specific target organ toxicity single exposure (STOT SE): based on information of the components the classification criteria are not met.

Specific target organ toxicity repeated exposure (STOT RE): based on information of the components the classification criteria are not met for this hazard class.

Aspiration toxicity: classification criteria are not met.

11.2. Information on other hazards

When working with this product, general rules for handling chemicals must be observed.

The mixture does not contain any ingredient with endocrine disrupting properties according to the criteria laid down in Regulations (EU) No 2017/2100 and (EU) No 2018/605.

Section 12: Ecological information

12.1. Toxicity: the mixture has not been subjected to targeted studies. It has been assessed on the basis of ecotoxicological data of components and classified as Aquatic Chronic 3 according to Table 4.1.2 of Reg. (EC) No 1272/2008.

12.2. Persistence and degradability: for inorganic substance biodegradation criteria cannot be tested. Non-ionic surfactants contained in the preparation comply with the degradation criteria given in Reg. (EC) No 648/2004 on detergents (>60%, 28 days, OECD 301 B). 2-(2-butoxyethoxy) ethanol is readily biodegradable according to OECD criteria. Etidronic acid is not readily biodegradable.

12.3. Bio accumulative potential: no data, significant accumulation of components is not likely.

12.4. Mobility in soil: very likely mobile.

12.5. Results of PBT and vPvB assessment: components of the mixture do not meet the criteria for classification as PBT or vPvB substance.

12.6. Endocrine disrupting properties: components of the mixture are not found in the available lists and databases of endocrine disruptors and suspected endocrine disruptors.

12.7. Other adverse effect: If discharged into drains in large quantities, it may adversely affect the functioning of biological treatment plants. If discharged in diluted form into the sewer, local regulations (e.g. pH value 6,5 – 10) must be followed. If the product is properly diluted, it will not affect the operation of sewage treatment plants.

Section 13: Disposal considerations

13.1. Waste treatment methods

Management of waste should follow Dir. (EC) No 2008/98/EC on waste.
The generation of waste should be minimised or avoided wherever possible.
Waste management must not endanger human health and the environment in particular water bodies. When handling waste, the safety precautions applying to handling of the product should be considered.

Do not empty waste into drains, rivers, watercourses, ponds, standing waters, natural waterways.
Contact your sales representative or local environmental authorities for approved disposal methods.

EWC code may vary depending on place of use, circumstances of waste generation.

07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 01*	aqueous washing liquids and mother liquors

Section 14: Transport information

The product is a dangerous good under the conventions governing the international transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO).

14.1. UN-number or ID number: 1805

14.2. UN proper shipping name: PHOSPHORIC ACID, SOLUTION

14.3. Transport hazard class(es): 8

14.4. Packaging group: III

14.5. Environmental hazards: void

14.6. Special precautions for users:

ADR: LQ: 5L, EQ: E1, Classification code: C1, Labels: 8,
Hazard identification number: 80, Packaging instructions: P001, IBC03, LP01, R001
Transport category/Tunnel restriction code: 3 (E)

14.7. Maritime transport in bulk according to IMO instruments: not relevant

Section 15: Regulatory information

15.1. Safety health and environmental regulations/legislation specific for the mixture

The product does not contain a substance on the SVHC candidate list.
The product does not contain a substance listed in Annex XIV and XVII of REACH regulation.

Relevant European Acts

Regulation (EC) No 648/2004 on detergents and its modifications

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and its modifications

Regulation (EC) No 1272/2008 and of the European Parliament and of the Council on Classification, labelling and packaging of substances and mixtures and its modifications

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work
Lists of proposed occupational exposure limit values for the implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work in Directives 2000/39/EU, 2006/15/EU, 2009/161/EU, 2017/164/EU and 2019/1831/EU and Directive 2004/37/EC and its amendment; https://echa.europa.eu/hu/cad-and-cmd-legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste

15.2. Chemical Safety Assessment: has not been carried out.

Section 16: Other information

The safety data sheet applies to the delivered product.
The information contained in the safety data sheet is correct to our best knowledge on the date of issue; it is intended as a guide for safe use, handling, disposal, storage and transport of the delivered product.
Safety data sheet does not replace product specification.
Consumers, users themselves are responsible for the risks and hazards resulting from the use of the product. Manufacturer, distributor do not assume any warranty or responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected to the handling, storage, use or disposal of the product because conditions of application, handling, storage, use or disposal of the product are beyond their control.

Classification of the product: the mixture is classified by calculation methods in accordance with the Reg. (EC) No 1272/2008.

Training recommendation: knowing and understanding of the safety data sheet. In the annual occupational safety training workers should be informed about the hazards of handling chemicals and the general safety and health protection measures.

SAFETY DATA SHEET SHOULD ALWAYS BE AVAILABLE FOR WORKERS AT HAND.

Full text, explanations H-statements and hazard classes for the pure substance(s) referred to in Section 3:

The numbers after the abbreviations in Section 3 indicate the category within the classes, the higher numbers indicate a lower hazard:
Skin Corr.: skin corrosion; Skin Irrit: skin irritation; Eye Dam.: serious eye damage; Eye Irrit.: eye irritation; Met. Corr.: Substance or mixture corrosive to metals; Aquatic Acute: short-term aquatic hazard, Aquatic Chronic: long-term aquatic hazard
H290 May be corrosive to metals.

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes eye serious irritation.
H400 Very toxic to aquatic life with long lasting effect.
H411 Toxic to aquatic life with long lasting effect.
H412 Harmful to aquatic life with long lasting effect.

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE_{mix} Acute Toxicity Estimate of a mixture
CLP Classification, Labelling and Packaging known as Reg. (EC) No 1272/2008
ECHA European Chemical Agency
ED Endocrine disruptor
EWC European Waste Code
GHS Globally Harmonized System of Classification and Labelling of Chemicals – United Nations
IATA International Air Transport Association
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous Goods Code
IMO International Maritime organization
M Multiplying factor to be used in the determination of acute and chronic aquatic environmental risk by the weighted summation method
OECD Organisation for Economic Co-operation and Development
PBT Persistent, Bio accumulative and Toxic
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals, Reg. (EC) No 1907/2006
RID Regulations concerning the international carriage of Dangerous goods by rail.
STEL Short-Term Exposure Limit
SVHC Substance of Very High Concern
TWA Time weighted Average - The concentration of a hazardous substance in the air averaged over an 8-hour workday that workers may be repeatedly exposed for a working lifetime without adverse effects
vPvB Very persistent and very Bio accumulative

History: SDS (version 1.0-EN) was issued: 11 March 2022 based on the manufacturer's data.
This SDS (2.0-EN) supersedes the previous one; changes are aimed at full compliance with the Reg. (EU) 2020/878.