

H₃PO₄ E 338

EINECS : 231-633-2

1. Application

Refinement of oils,
Yeast production,
Pharmaceutical industry,
Chemical industry: metal treatment, detergent production, liquid fertilizers, refractories and others

2. Physicochemical properties – based on technical literature

Molecular weight 98,00 g/mol
Form and colour clear, colourless or sometimes greenish viscous liquid
Odour odourless / sometimes perceptible H₂S
Taste sour
Freezing point of 75% orthophosphoric acid H₃PO₄ - 17,5 °C
Freezing point of 85% orthophosphoric acid H₃PO₄ + 21 °C
Solubility in water unlimited

3. Quality requirements

| Requirements | | Guaranteed parameters | | Analytical method |
|---|-----------------------|-----------------------|---------|---|
| | | 75 | 85 | |
| Phosphoric acid as H ₃ PO ₄ | %(m/m) | min.75 | 85±85,7 | acid-base titration acc. PN-C-84034:1997 |
| Arsenic compounds as As, | mg · kg ⁻¹ | max. 1 | | colorimetric acc. PN-C-84034:1997 |
| Lead compounds as Pb, | mg · kg ⁻¹ | max. 1 | | emission atomic spectroscopy ICP acc. to PA/LJ/48 |
| Mercury compounds as Hg, | mg · kg ⁻¹ | max.0,01 | | ASA with direct mineralisation acc. to PA/LJ/57 |
| Cadmium compounds as Cd, | mg · kg ⁻¹ | max. 0,1 | | emission atomic spectroscopy ICP acc. to PA/LJ/48 |
| Fluorine compounds as F, | mg · kg ⁻¹ | max. 5 | | potentiometric ISE acc. to PA/LJ/76 |
| Chlorine compounds as Cl-, | mg · kg ⁻¹ | max. 10 | | nephelometric acc. to PA/LJ/62 |
| Sulfur compounds as CaSO ₄ , | mg · kg ⁻¹ | max. 70 | | emission atomic spectroscopy ICP acc. to PA/LJ/47 |
| Nitrates as NaNO ₃ ,, | mg · kg ⁻¹ | max. 5 | | quality test acc. to PA/LJ/80 |
| Volatile acids as CH ₃ COOH,, | mg · kg ⁻¹ | max. 10 | | steam distillation acc. to PA/LJ/79 |

4. Description of production process and content of product

The raw material for production of phosphoric acid food grade is yellow phosphor. Product is received by burning of phosphor in the air stream and next in the absorption of P₂O₅ from the circulating water. The acid circulates till receiving the right concentration of H₃PO₄. Finally received acid is put under the process of reduction of arsenic compounds.

The final product is inorganic substance, which is:

- 75% aqueous solution of H₃PO₄ or
- 85% aqueous solution of H₃PO₄



5. Packaging and labelling

The phosphoric acid food grade can be transported in road tankers and containers. Both road tankers and unit packages must be permitted for transportation according to ADR and RID regulations on the transportation of hazardous materials:

- Class – 8
- Packaging group – III
- UN – 1805
- Hazard ID number – 80

All means of transport must have the cleaning certificate.

Phosphoric acid food grade packaging type - containers:

Upon consent of the recipient, other types of packaging may be applied.

All unit packages types comply with the applicable legal requirements on materials and articles intended to come into contact with food. Every unit package is marked with following information:

- Name and address and producer,
- Name of the product.

The production date and expiry date is on Certificate of Analyze, added to every dispatch.

6. Microbiological testing

Phosphoric acid food grade complies with the applicable legal requirements on specification and purity criteria for permitted food additives.

Random microbiological product testing has shown negative results for the presence of the following bacteria: Escherichia coli, Staphylococcus aureus, anaerobic sporogenous bacteria and bacilli Salmonella.

Test results show that the product has no stimulating effect on the development and multiplication of Salmonella bacilli.

7. Content of foreign substances

Phosphoric acid food grade complies with the applicable legal requirements on the content of contaminants for permitted additives.

All raw materials used in the production process are free from physical, chemical, and microbiological contaminations /acc. to the manufacturer's declaration/, and in particular, they contain none of the following: mycotoxins, pesticides, antibiotics, hormones, and dioxins. Furthermore, no substances containing the foregoing contaminants are added at any stage of production or presentation.

The content of heavy metals complies with the applicable legal requirements on the permitted additives.

None of the following substances is added at any stage of the production: substances of organic, plant and animal origin, dyes, emulsifiers, antioxidants, preservatives, sweeteners, aromas, animal fats, solvents, or any other improving substances.

8. Content of allergens

Phosphoric acid food grade contains no allergens, wherein the risk of cross-contamination with the following allergens is excluded:

- Crops containing gluten: wheat, rye, barley, spelt, Triticum turgidum and its hybrids and derivatives,
- Rice and derivatives,
- Other grains and grain derivatives,
- Maize and maize derivatives,
- Soya and soya derivatives,
- Buckwheat,
- Yeast,
- Lecithin,
- Gluten,
- Celery,
- Cinnamon,
- Nuts: almonds, hazels, walnuts, cashews, pecan nuts, Brazilian nuts, pistachios, macadamia nuts, Queensland nuts, and derivatives.
- Peanut, peanut oil and its derivatives
- Sesame, sesame oil and its derivatives
- Cocoa and its products (including cocoa butter),



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- Coriander oil,
 - Leguminous plants,
 - Stone fruits (apricot, plum, cherry, etc.)
 - Gelatine,
 - Lactose,
 - Mustard and its products,
 - Eggs and its derivatives,
 - TVP /textured vegetable proteins/,
 - HVP /hydrolysed vegetable proteins/,
 - Milk and dairy products,
 - Milk proteins /casein, whey/,
 - Meat /beef, pork, poultry/ and meat products,
 - Crustaceans and mussels,
 - Fish and fish products,
 - Poultry and poultry products
 - Vanilla,
 - Natural dyes,
 - Azo dyes (E110),
 - Tartrazine (E 102),
 - Apiaceous plants,
 - Carrot,
 - Lupine,
 - Poppy,
 - Coriander,
 - Preservatives,
 - Benzoic acid (E210-E213),
 - Glutamates (E620-E625),
 - Sulphides (E220-E228),\
 - Sulphur dioxide and sulphites used as SO₂ at concentration exceeding 10 mg/kg or 10 ml/l.
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9. GMO

The phosphoric acid food grade, which is a non-organic substance, as well as all raw materials used in its production are non-genetically modified organisms within the meaning specified in the applicable legal provisions currently in force.

10. Radioactivity

The phosphoric acid food grade is characterized by insignificant concentration of natural radioelements within experimental error, accounting for the concentration of radioelements in foodstuff of plant origin.

Neither of the following is used in the technological process:

- Product irradiation,
 - Product ionisation.
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11. Nutritive values

The phosphoric acid food grade has no nutritive values. It is used as a clarifying substance and an acidity regulator.

No nutrition labelling is made, including the labelling of energy value and the content of vitamins and alcohol.

12. Expiry date

The expiry date of phosphoric acid food grade is 24 months from the date of production.

13. Application

The phosphoric acid food grade is to be applied according to the applicable national, international and EU regulations on the permitted food additives.



14. CCP

A single Critical Control Point /CCP/ has been determined following risk identification, analysis and assessment at each stage of the production process. The CCP has been identified in filling up of road tankers and unit packages stage. Food safety risk is associated with the possible food contamination of foreign character. In order to eliminate the risk, there have been established the combination of supervision methods i.e. filters.

CCP monitoring, corrective and preventive measures, as the case may be, as well as validation and verification measures are performed in compliance with the provisions set out in „HACCP Plan for DSD”

Additionally to avoid pollutions of acid during filling up the road tanker before every lading every road tanker must be checked. The driver is obligated to have the cleaning certificate of the road tanker.

15. Glass Control

The production area, including the technological process, is subject to supervision within the framework of Glass Control and Pest Control programmes.

Glass Control is aimed at eliminating the following contaminations: glass, wood, hard plastic.

16. Chemical analyses

Product testing for guarantee parameters is performed by the corporate Quality Control Laboratory pursuant to „Schedule of Raw Material, Interoperational, and Finished Product Analyses” currently in force.

Analysis Certificate is enclosed to each product batch, which includes among other things: name of the product, batch identification, production date, expiry date and results of analyses according to the specification. Microbiological tests, radioactivity tests and content of dioxins are ordered in external laboratory.

17. Storage

Phosphoric acid food grade requires no special storage conditions /the quality of product stored in unit packaging remains unaffected by the ambient temperature and humidity, etc./

Phosphoric acid food grade should be stored in acid-resistant steel containers placed on an acid-proof tray in the open air. Smaller quantities of the acid may be stored in the transportation packaging in ventilated rooms or in the open air.

18. Transportation

Phosphoric acid food grade should be transported in acid-proof tankers or unit packages permitted for transportation according to ADR and RID regulations on the transportation of hazardous materials.

Class – 8 Packaging group – III UN – 1805 Hazard ID number – 80

All logistic services by "ALWERNIA" S.A. are performed by qualified freight carriers.

19. Certificates

The production and sales of the goods are certified:

- Quality Management System – certified according to PN-EN ISO 9001 standard,
- Environmental Management System – certified according to PN-EN ISO 14001 standard,
- Food Safety Management System – certified according to PN-EN ISO 22000 standard,
- Kosher Certificate.

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“Alwernia” S.A.

has Certified Quality, Environmental, Food
Safety Management Systems

