# ELIXIR FOS F85

## PHOSPHORIC ACID – FOOD GRADE – F85

TECHNICAL SPECIFICATION

Edition: 03

Date: 19.07.2024.

***Physical Characteristics***

| Parameters | Unit | Declared | Typical | Method |
|---|---|---|---|---|
| $P2O_5$ | % | 61,0 – 62,0 | 61,5 | Anton Paar DMA 4500 |
| $H3PO_4$ | % | 84,5 – 85,5 | 85,0 | Anton Paar DMA 4500 |
| Density | g/ml20°C | | 1.685 | Anton Paar DMA 4500 |
| Boiling Point | °C | | 158 | |
| Freezing Point | °C | | 21 | |
| Viscosity | cP30°C | | 32 | |
| APHA | | max 10 | | |
| Color | | transparent | transparent | |

***Chemical Characteristics***

| Parameters | Unit | Declared | Typical | Method |
|---|---|---|---|---|
| Fluoride (expressed as fluorine) | ppm | max 10 | < 8 | Ion specific electrode |
| Chlorides (expressed as chlorine) | ppm | max 10 | < 8 | Ion specific electrode |
| Cadmium (Cd) | ppm | max 1 | < 1 | ICP – OES |
| Arsenic (As) | ppm | max 1 | < 1 | AAS – HVG |
| Lead (Pb) | ppm | max 1 | < 1 | ICP – OES |
| Mercury (Hg) | ppm | max 1 | < 1 | Mercury Analyzer AMA-254 |
| Nitrates (as $NaNO_3$) | ppm | max 5 | < 5 | Ion Chromatography |
| Sulphates (as $CaSO_4$) | ppm | max 140 | < 130 | Ion Chromatography |
| Volatile acids (as acetic acid) | ppm | max 10 | < 8 | Ion Chromatography |
| Iron (Fe) | ppm | max 10 | < 8 | ICP – OES |
| Calcium and magnesium (Ca+Mg) | ppm | max 20 | < 15 | ICP – OES |
| Magnesium (Mg) | ppm | max 10 | < 8 | ICP – OES |
| Aluminium (Al) | ppm | max 10 | < 8 | ICP – OES |
| Chromium (Cr) | ppm | max 2 | < 1 | ICP – OES |
| Nickel (Ni) | ppm | max 1 | < 1 | ICP – OES |
| Copper (Cu) | ppm | max 1 | < 1 | ICP – OES |
| Zinc (Zn) | ppm | max 10 | < 8 | ICP – OES |
| Heavy metals (total) | ppm | max 10 | < 10 | Calculation |





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## PRODUCT DESCRIPTION

Clear, colorless liquid with density of 1.575 kg/m$^3$ at 20°C (type 75) or 1.685 kg/m$^3$ at 20°C (type 85) and freezing points of -18°C (type 75) or +21°C (type 85). Both concentrations of phosphoric acid usually remains supercooled liquids at temperatures considerably below the true freezing point, but the type 85 may crystallize in cold weather.

Abbrev. TPA 75, 85

CAS No.: 7664-38-2
EINECS No.: 231-633-2
Synonyms: Orthophosphoric acid - E 338
Trihydrogen phosphoric acid
Chemical formula: $H_3PO_4$
Molecular weight: 98,00 g·mol$^{-1}$

## TRANSPORTATION AND STORAGE

The product can be shipped in: -Tank trucks -Tank containers Delivery - Transportation of these acids is subject to the ADR/RID regulations for international transport of dangerous goods (UN-no.1805). Storage - Phosphoric acid is stored in losed acid- resistant tanks (suitable material AISI 316). Storage tanks for 85% acid should be heatable to avoid the crystallization of the acid. Storage tanks should be heatable from the bottom to prevent the contents of the container from freezing. Pipelines intended for acid handling must have accompanying steam piping or be fitted with electric heating tape. For the storage of phosphoric acid in drums and IBCs should be allocated an indoor area, in case of 85% acid the temperature should be higher than 21°C. Protect from heat sources. Do not expose to sunlight. Shelf life: 24 months from production date when stored properly.

## MAIN APPLICATIONS

| FOOD INDUSTRY | NON-FOOD INDUSTRY |
|---|---|
| -Acidulantin softdrinks<br>-Purification andprocessing of drinking water<br>-Cane sugar refining<br>-Vegetable oil degumming<br>-Yeast nutrient<br>-Production of food grade phosphate salts<br>-Pharmaceutical industry<br>-Pet food | -Textileand fibreindustries<br>- Antifreeze<br>-Productin f foliar fertilizers and water soluble fertilizers<br>-Production of I&I cleaners and detergents<br>-Metal treatment (metal cleaning, phosphating, electroplating, …)<br>-Production of phosphate salts<br>-Water treatment<br>-Activated carbon<br>-Enamels industry<br>-Fermentation processes<br>-Manufacture of caprolactam<br>-Production of pigments<br>-Refractories ceramics and iron foundry |

Our purified phosphoric acid meets the requirements of current European Community regulation EU (231/2012). Compliant with the Rulebook on food additives ("Official Gazette of RS", No. 53/2018). It is guaranteed GMO free, Dioxin free and free from allergens on the ALBA list. Our phosphoric acid is of mineral origin and does not contain any animal matter. No animal derived materials are used during manufacturing.



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