

# BORATE PHOSPHATE (BP 40I)

## Halogen free retardants for polymers

### PRODUCT BRIEF

Borate phosphate is an inorganic polymer, a white, water-insoluble solid, that melts at temperatures above 900 °C. Boracium and phosphorus combination allows the product to be used as a retardant that maintains the integrity and strength of low carbonization coke in intumescent, or as a smoke suppressor. It is primarily used with retardants such as melamine phosphate, ammonium polyphosphate, melamine cyanurate. Moreover, Borate phosphate not only serves as a retardant in polyamides, but also prevents polymers from thermal oxidation.

### APPLICATIONS

Due to high decomposition point, the retardant can be used in polymers and plastics with high processing temperatures, as well as in the production of coatings and materials that are resistant to temperatures up to 1100 °C. The product is one of the components of intumescent and helps maintain the integrity of the produced low carbonization coke. It is used in polyamides, polyurethanes, for the manufacture of engineering thermoplastics (polyphenylene oxide, polyphenylene ether). As a smoke suppressor, it is more effective than zinc borate.

### DOSAGE

- PA 6 (polyamide 6), PPE polyphenylene ether – UL 94 V-0 5% of the net weight combined with two-percent silicon oil
- PP – polypropylene UL 94 V-0 3-10% of the net weight combined with
- EVA (ethylene-vinyl acetate), PP-EPDM (the mixture of polypropylene and ethylene tercopolymer, propylene and dielofine), 5-50% of borate phosphate
- In intumescent, combined with APP and MPP 5-10% of Borate phosphate

### SPECIFICATIONS

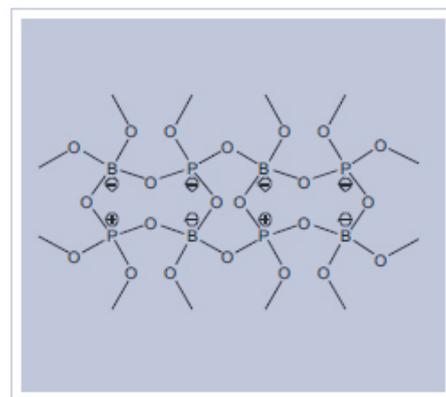
Particle size, µm	up to 40
Filtrate's pH, 10% of suspension	5,0-6,0
Decomposition point, °C	350
Water solubility at 20 °C, g/100ml	0,5
Phosphorus content, %	20-25

### CHEMICAL SAFETY DATA SHEET

According to GOST 12.1.007 the product is a low hazardous substance (4<sup>th</sup> category).  
 May be harmful if swallowed.

Producer: Novochem LLC (Tomsk)  
 Borate phosphate (BP 40I), Specifications 20.13.62.140-035-67017122-2019

### Structural formula



CAS Number: 13308-51-5

Molecular formula:  $BPO_4$