

## Data Sheet

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### Aluminium Orthophosphate

Aluminium Orthophosphate ( $\text{Al}(\text{H}_2\text{PO}_4)_3$ ) is a binder for refractories.

#### Chemical analysis (%)

*(Determined using ICP analysis)*

$\text{P}_2\text{O}_5$	32 - 38
$\text{Al}_2\text{O}_3$	5 - 8
$\text{Na}_2\text{O}$	0.02 – 0.036
$\text{SO}_3$	0 - 0.0201
$\text{TiO}_2$	0 - 0.01
$\text{Fe}_2\text{O}_3$	0.0019 – 0.0029
$\text{ZnO}$	0 - 0.0023
$\text{CaO}$	0 - 0.0028
$\text{SiO}_2$	0 - 0.0013
$\text{MgO}$	0.0008 – 0.0012
$\text{V}_2\text{O}_5$	0 - 0.0003
$\text{MnO}$	0 - 0.0001

#### Physical Properties:

<b>Appearance:</b>	Milky to Colourless
<b>Density (20°C; g/ml):</b>	1.46 - 1.56
<b>pH-value (2% solution):</b>	1.98 – 2.14

#### Applications:

Binder for refractories.

At 200°C additional bonding occurs due to the formation of polymeric phosphates and at 460°C full strength is developed. The phosphate bond persists until ceramic bonds are formed at elevated temperatures.

Materials bonded with aluminium orthophosphate obtain high strength at relatively low temperatures, especially in the presence of aluminium hydroxide and fireclay.

#### Packaging:

35 kg in 25 Lt Polycan

#### Shelf life:

Unlimited

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