

## TECHNICAL DATASHEET

# PENOX TBLS+® 'Next Generation'

### Main Battery Applications:

All types of lead acid batteries.

### Description:

TBLS+® is a tetra basic lead sulphate produced by the reaction of lead oxide with sulphuric acid, chemical formula  $PbSO_4 \cdot 4 PbO$ .

TBLS+® has a d50 sub-micron particle size and is specially treated for applications in the battery industry (lead accumulator). The product is sold as a slurry, suspended in water.

The content of tetrabasic seed crystals in the slurry is adjusted to min. 32 % by the producer.

### PENOX TBLS+®:

Recommended addition rate from 0.5 to 1.5 % of the lead oxide weight in the paste recipe.

### Physical/Chemical Data:

TBLS+® is free of carbon compounds and other components that can affect the battery.

<b>Solids</b> <sup>1)</sup>		39 - 45 %	DIN ISO 787-2
Particle Size	d 99	< 5.0 µm	PV 109, Laser Diffraction
	d 50	< 1.0 µm	PV 109, Laser Diffraction
Density of the Slurry <sup>1)</sup>		1.45 - 1.75 g/cm <sup>3</sup>	DIN EN ISO 787-10
<b>Content of seeds</b> <sup>2)</sup>		> 32 %	PV 261, FTIR Spectroscopy
<b>Pb (total) of the lead compound</b>		83-85 %	PV 265, EDTA Titration
<b>Impurities</b>	Iron	< 20 ppm	PV 450, ICP

1) depends on the content of tetra basic seed crystals of the raw material

2) adjusted by the producer

**Packaging:** upon agreement – buckets and IBCs available.

**Transport & storage:** Keep the product >0°C and not exposed to direct sunlight.

Shelf life: 12 months under specified storage conditions.

All technical data and information are for guidance and assistance in your application. The particulars are made to the best of our knowledge but without liability.

**TBLS+®**  
Next  
Generation

**Battery  
Additives**