

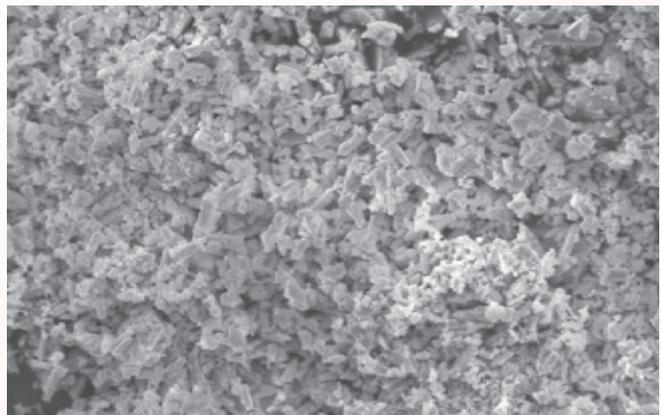
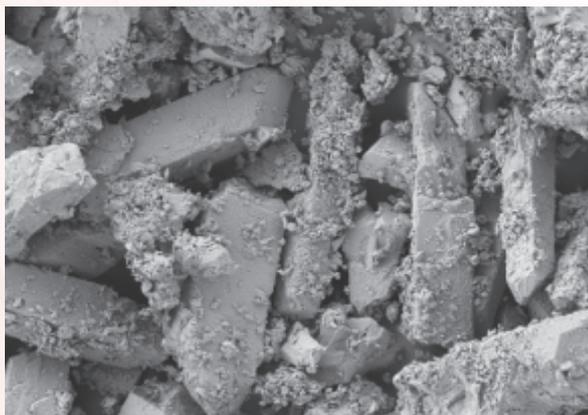
# TETRA POWER

**Tetra Basic Lead Sulphate**  
**(for Automotive & Industrial Batteries)**

Tetra Power (TBLS) required for positive active material paste where tetra basic seeding fine crystals are required, to generate more % of TBLS in active mass structure. Its distribution in active material is more uniform and crystals are evenly distributed. The curing profile can be done at lower or Higher temperature with saving in energy, thus Curing and Drying time shortened.

The crystals increases the porosity and have more conductivity in active material. The bonding of active material enhanced with the crisscross needle type crystal structure. The crystalline structure is stable. Reduces softening of active material.

It can improve cold cranking amperes, reserve capacity, improves free lead oxidation and reduces plate to plate variation. The cycle life of batteries increased.



SEM Images of Before & After Addition of Tetra Power (TBLS)

Seeding Crystals of Tetra Power (TBLS) Powder addition leads into Large Number of Relatively even sized TBLS. This will Increases Cycle Life and Consistent Performance in Lead Acid Batteries.

### Performance Advantages:

- Curing - Drying Time Savings.
- Formation - Time and Energy Savings.
- Tetra Power (TBLS) Improves Porosity in the Positive Active Mass.
- Tetra Power (TBLS) Improves Formation of Conductive areas Close to the Grids During Deep Discharge Operations or Longer Period without Battery Operation, it Shows High Current Acceptance During Charging Operations.
- Tetra Power (TBLS) Increases Service Life Due to Stable Crystalline Structures During Discharge / charge Operations, Cold Cranking Amps (cca), Battery Life Cycles, Charge Acceptance Capacity.
- The Tetra Basic Curing is the Most Beneficial way to Cure Fast in manual as well as in Automatic Curing Chambers - Results Obtained Consistently free Lead Content below 2%.

### Tech. Specifications

SR. NO.	PARAMETERS	VALUES OBTAINED	UNIT	SPECIFICATION
1.	Appearance	Off White Amorphous Fine Powder	–	Off White Amorphous Fine Powder
2.	PbO Content	93.25	%	92-94%
3.	Volatile Matter @ 110° for 1 hr	0.17	%	0.5 Max
4.	Water Solubility	Insoluble in Water	%	Insoluble in Water
5.	Moisture @ 105°C	0.17	%	0.5
6.	Particle Size in milli micron	1-3	Micron	1-10
7.	Sieve Residue (25 $\mu$ )	0.18	%	0.5
8.	Iron as Fe	20	ppm	100
9.	Zinc as Zn	1	ppm	10
10.	Copper as Cu	1	ppm	15
11.	Silver as Ag	14	ppm	50
12.	Nickel as Ni	1	ppm	10
13.	Bismuth as Bi	130	ppm	500
14.	Arsenic as As	1	ppm	0.0010
15.	Antimony as Sb	1	ppm	0.0010
16.	Tin as Sn	1	ppm	0.0010

Tetrabasic easily converts to  $\alpha$  PbO and Beta PbO.  $\beta$  PbO is smaller in size and has more specific surface area, hence, gives more ampere capacity and  $\alpha$  PbO functions durability of positive electrodes.

**Dosage :** 1% To 2% As Per Formulation

**Packing :** 50 Kg Drum

**Storage :** Store in a cool & dry place

### Chemical Lab | Battery Testing Equipment

