



# TECHNICAL DATA SHEET

## ULTRABRITE PSA

(65% AQUEOUS SOLUTION OF PHENOL SULFONIC ACID)

**1.0 INTRODUCTION** : ULTRABRITE PSA or Phenol Sulphonic Acid 65% solution is specially produced for the Tinline application. It is used basically in the electrolyte for the electrolytic tinning products using FERROSTAN® process. It is also used in non-tin plating operation.

*The ULTRABRITE PSA is used primarily for two reasons in Tinline.*

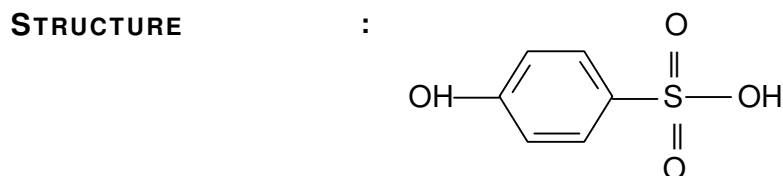
- a) The PSA acts as antioxidant and prevents the formation of  $\text{Sn}^{+4}$  salt from  $\text{Sn}^{+2}$  in tinning bath and thus helps to reduce sludge formation.
- b) PSA provides conductivity to the plating solution.

**2.0 DETAILS OF ULTRABRITE PSA/PHENOL SULFONIC ACID 65% SOLUTION:**

**CAS NO:** : 98-67-9

**UN No.** : 1803

**SYNONYM** : p-hydroxybenzenesulphonic acid, Sulfocarboic Acid



**EMPIRICAL FORMULA** :  $\text{C}_6\text{H}_6\text{O}_4\text{S}$

**MOLECULAR WEIGHT** : 174

Cont..2/-

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<b>SPECIFICATION</b>	:	Appearance	:	Reddish brown liquid
		Sp. Gravity	:	1.34 – 1.36
		PSA content (%)	:	Min. 65.0
		Free phenol (%)	:	Max. 1.0
		Free sulphuric acid (%)	:	Max. 2.0
		Sulfone (%)	:	Max. 1.0
		Freezing point °C	:	Max. 3.0
		Sulfer dioxide (ppm)	:	Max.100
		Iron (ppm)	:	Max.100
		Chloride	:	Below detection limit (BDL)
		ENSA solubility (%)	:	Min. 92.0

### 3.0 THE TYPICAL PARAMETER FOR TINPLATING BATH PRIOR TO REFLOW:

Stannous Sulphate (as Sn)	:	26 – 32 g/L
ULTRABRITE PSA (as H <sub>2</sub> SO <sub>4</sub> )	:	13 – 16 g/L
Ethoxylated $\alpha$ Naphthol	:	
Sulphonic acid (ENSA)	:	2 – 6 g/L
Temperature	:	32 - 58 <sup>0</sup> C
Current density	:	11 – 44 A/dm <sup>2</sup>

**4.0 SAFETY** : ULTRABRITE PSA or 65% Phenol sulphonic acid is a strong acid and corrosive. Wear protective clothing, safety glasses, gloves during handling.

Skin, eye and respiratory irritant. May be harmful by ingestion, inhalation or through skin contact.

**5.0 STABILITY** : ULTRABRITE PSA is stable, incompatible with strong oxidising agents, strong bases and strong acids.

**6.0 STORAGE** : Must be stored in polylined containers. Not to be stored at temperature below 5<sup>0</sup>C.

**7.0 SHELF-LIFE** Minimum one year Shelf life. Do not store in direct sunlight.

**NOTE :** The “Initial Bath Make-up” and “Operating Parameters” mentioned herein are normal for most installations. However, GTZ representative may suggest a deviation from this data to meet specification requirement or local conditions.



**GTZ (INDIA) PRIVATE LIMITED**

9, Brabourne Road, Kolkata-700 001, India

☎ 91-33 2242 9900/01 Fax: 91-33 2210 7634

E-Mail Address : [connect@gtzworld.com](mailto:connect@gtzworld.com)

Website : [www.gtzworld.com](http://www.gtzworld.com)

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