TECHNICAL DATA SHEET

1. Chemical Composition

Product Name	Zinc Borate	**Formula**	$2ZnO{\cdot}3B_2O_3$
Product Model	ZB23	**Primary Product Use**	Flame Retardant and Smoke Suppressant
Technical Index		**Standard Value**	
Appearance		White Powder	
Whiteness %		≥90	
Zinc Oxide (ZnO) %		44.0 ~ 46.0	
Boron Oxide B_2O_3 %		54.0 ~ 56.0	
Loss On Ignition (450℃) %		≤1.5	
Surface Water %		≤0.5	
Particle Size D_{50} μm		5.0 ~ 8.0	
Fineness (Residue on 200mesh Sieve)		≤0.6	

2. Packaging & Storage:

25 kg/Bag, Palletized, 18 MT/20'GP

The product should be stored under dry and clean conditions in its original package because of its tendency to gradually pick up surface moisture in high humidity environments. This surface moisture is easily removed by heating at about 200°C.

3. Export Loading Container Picture:

4. Key Characteristics:

- No Water Of Hydration:

Unlike hydrated forms, anhydrous zinc borate lacks water molecules, making it suitable for high-temperature applications.

- High Thermal Stability:

It remains stable up to temperatures of 600°c (1112°f)

- Environmentally Friendly:

It is a halogen-free flame retardant, providing a safer alternative to some traditional flame retardants.

5. Shipping Information:

UN Number: 3077
UN Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S.
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: Marine Pollutant
Harmonized Tariff Number: 2840.20

6. Safety and Handling Information:

For specific safety, toxicity and handling information, please refer to material safety data sheet on this product.

7. Chemical Registration Numbers:

CAS NO.: 12767-90-7
EINECS NO.: 215-566-6

8. Recommend Application:

Polymers: anhydrous zinc borate can be compounded with other additives to form halogen-free expansion flame retardant, which can be used as an excellent flame retardant and smoke suppressant for polymers requiring very high processing temperatures (polyether ketone, polysulfone, polyester, nylon, fluorine-containing polymers, etc.).
Ceramics: functions as an auxiliary flux in medium-temperature ceramic bodies, similar to talc.

9. Mechanism As Flame Retardant:
Char Formation: catalyzes the formation of a protective char layer on the burning material.
Glass Formation: creates a glass matrix that shields the underlying material.
Synergistic Effects: works well with other flame retardants, including halogenated, non-halogenated, and Phosphorus-based compounds, to enhance performance.