

# PYROBOR® Dehydrated Borax

## Standard Grade

**Technical Information**  
Bulletin 5100

**Brand Name:** THREE ELEPHANT® PYROBOR® Dehydrated Borax  
**Chemical Name:** Sodium tetraborate  
**Also known as:** Anhydrous borax, borax glass, fused borax, dehydrated borax  
**Formula:**  $\text{Na}_2\text{B}_4\text{O}_7$   
**Molecular Weight:** 201.22  
**CAS / TSCA No.:** 1330-43-4 **REACH:** 01-21199490790-32-0001  
**Description:** A free flowing mixture of clear, glass-like particles and white granules formed by the crushing of relatively large masses of fused materials.  
**Grades:** Standard

If you require guidance in developing product specifications, please contact Quality Assurance at (760) 372-2243

### Properties

Chemical Analysis	Specification	Physical Analysis	Specification
		<i>U.S. Standard Sieve No. (% cum. retained)</i>	
Boric Oxide ( $\text{B}_2\text{O}_3$ )	68.5 % min		
Equivalent Borax ( $\text{Na}_2\text{B}_4\text{O}_7$ )	99.0 % min	+12 (1.68 mm)	2 % max
Sodium Oxide ( $\text{Na}_2\text{O}$ )	30.5 % min		
Sulfate as $\text{SO}_4$	150 ppm max		
Sodium Sulfate (as $\text{Na}_2\text{SO}_4$ )	223 ppm max		
Total Iron (Fe)	$\leq 50$ ppm		

**Note:** All data in the above specification are determined by Searles Valley Minerals analytical methods.

#### Packaging

**Poly Bags:** 25 kg  
**Semi-bulk Bags:** 2,000 lb and 1,000 kg  
**Bulk:** Trucks and hopper cars

#### Handling

Information concerning the handling and use of this product is provided in a safety data sheet (SDS). The SDS must be fully read and understood prior to any exposure, handling, or use of the product.

The information herein is believed to be reliable. However, no warranty, expressed or implied, is made as to its accuracy or completeness and none is made as to **MERCHANTABILITY** of the material or its **FITNESS FOR ANY PURPOSE**. The manufacturer shall not be liable for consequential damages or for damage to persons or property resulting from its use. Nothing herein shall be construed as a recommendation for use in violation of any patent.



ISO 9001

SVM's QMS is Certified to ISO 9001:2015

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## Theoretical Properties

The following properties are textbook theoretical data and are provided for convenience and reference only. These properties are not normally tested for the commercial product and no representation is made relative to the commercial product.

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### Theoretical Composition

Sodium oxide	(Na <sub>2</sub> O)	30.8 %
Boric oxide	(B <sub>2</sub> O <sub>3</sub> )	69.2 %

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### Stability

On exposure, anhydrous borax, PYROBOR®, slowly absorbs moisture, gradually reverting back to a hydrate. The clear, glassy particles become white and opaque.

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### Melting Point

742.5°C (1367°F)

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### Angle of Repose, *horizontal*

31 degrees

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### Specific Heat @ 25°C

44.64 cal/deg-mol

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### Other Information

PYROBOR® is completely anhydrous borax produced by the dehydration and fusion of decahydrate borax. On cooling, the fused product converts to an amorphous (glassy) form. The chemical equivalent of 100 pounds (or kilos) of decahydrate is contained 52.8 pounds (or kilos) of anhydrous borax.

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### Heat of Solution @ 18°C

7.26 Kcal/g-mol or 28.81 Btu

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### Heat of Formation @ 25°C

-786.6 Kcal/g-mol or -3121.6 Btu

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**Searles Valley Minerals**

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