

# Technical Data Sheet

## Zone Defense®



### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Brand Name</b>	Zone Defense®	<b>Manufacturer</b>	InCide Technologies, Inc.
<b>Chemical Formula</b>	Na <sub>2</sub> SO <sub>4</sub> •H <sub>3</sub> BO <sub>3</sub>		50 N. 41 <sup>st</sup> Avenue
<b>Chemical Name/Synonyms</b>	Sodium Polyborate		Phoenix, AZ 85009
<b>Chemical Family</b>	Inorganic Borates	<b>EMERGENCY PHONE NUMBERS</b>	
<b>CAS/TSCA No.</b>	183290-63-3	<b>CHEMTREC</b>	<b>800-424-9300</b>
		<b>INCIDE TECHNOLOGIES</b>	<b>602-233-0756</b>
		<b>Effective date</b>	January 1, 2009

### SECTION 2- TYPICAL PROPERTIES

The following properties are typical of normal production.

#### CHEMICAL ANALYSIS

		Typical <u>Range</u>	Standard <u>Specification</u>	
			<u>Minimum</u>	<u>Maximum</u>
Sodium Polyborate	(Na <sub>2</sub> SO <sub>4</sub> •H <sub>3</sub> BO <sub>3</sub> )	-----	99.7%	100.0%
Chloride	(Cl)	100-600ppm	-----	600ppm
Iron	(Fe)	2-20ppm	-----	20ppm
ANGEL OF REPOSE, horizontal 33 degrees		BULK DENSITY, poured Typical Range: 57-65 lb/ft <sup>3</sup>		Soluble in water (7.46% at 77 <sup>o</sup> F/25 <sup>o</sup> C).

### SECTION 3- 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.

#### THEORETICAL COMPOSITION

Sodium Polyborate Na<sub>2</sub>SO<sub>4</sub>•H<sub>3</sub>B<sub>3</sub> 100.00%

#### pH In Water @ 20°C (68°F)

Percent by weight    pH  
2.0                      7.00

#### SOLUBILITY IN OTHER SOLVENTS

Glycerol, 99%                      °C (°F)                      Percent by weight  
20(68)                                      44.8

#### MELTING POINT (not specified)

When heated in a closed tube, Sodium Polyborate loses its water of crystallization to complete hydration and fusion at 376.5°C

#### SPECIFIC GRAVITY @ 25°C

1.4

## **OTHER INFORMATION**

Zone Defense®, also known as sodium polyborate, is a free-flowing, white, crystalline salt. Boron, the key element in Zone Defense®, is an essential micronutrient and is present in all foods, particularly fruits, vegetables, grains, and nuts. The average person consumes between one to three milligrams each day as part of a normal healthy diet. Boron occurs naturally in air, water, and soil.

Zone Defense is a neutral 7.0 inorganic salt often used as an agricultural micronutrient, deodorizer, smolder, and flame retardant. the LD50 toxicology of Zone Defense® is about the same as table salt. Zone Defense® contains no volatile organic components and is used typically as an extender or replacement to boric acid in many applications.

Zone Defense® is stable and does not change under normal storage conditions. Wide fluctuations in temperature and humidity can result in caking. Care should therefore be taken to avoid such fluctuations during storage of the product.

## **SECTION 4- PACKAGING AND HANDLING**

**Granular: 50 pound (25kg), 100 pound (50kg) and 2,400 pound (1,200 kg)** multi plastic lined paper bags palletized and stretch wrapped (tote bags for 2,400 lb. lots). Fifty pound bags per pallet only. It is also available in 2000 lb. semi-bulk bags (1000kg).

**Powder: 50 pound** multi wall paper bags.

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

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Replaces: January 1, 2008