



Tim-bor[®] Industrial



Disodium octaborate tetrahydrate

CAS Number 12280-03-4



Wood treatment designed for maximum solubility

Tim-bor[®] Industrial borate wood preservative has been specially designed for the highest concentration of boron at the maximum possible solubility and rate of dissolution in water.

Application

Wood treated with *Tim-bor* Industrial can be used for a variety of purposes. Typical applications include trussed rafters, studding, cladding, and exterior joinery. Wood treated with *Tim-bor* Industrial is not suitable for ground contact applications and should be protected with a water repellent coating when used in exterior applications (eg joinery, fascia).

Tim-bor Industrial treated wood treated retains its natural appearance and strength. Treating wood with *Tim-bor* Industrial has little or no effect on ferrous metals, plastics, rubber, putties, bituminous solutions, other sealants, or primer paints.

It's flexible with regard to application methodology. *Tim-bor* Industrial can be applied as a pre-treatment by vacuum pressure processes to dry or green timber, and by dip diffusion to green timber. The ability to treat green timber and the subsequent diffusion of borates in wood enables penetration of difficult-to-treat species, such as Douglas fir, spruce, and many hardwoods.

The use of *Tim-bor* Industrial varies according to working requirements and country- or market-specific product labels. Prior to treatment with *Tim-bor* Industrial, U.S. Borax literature or appropriate national standards must be consulted.

Research

Tim-bor Industrial has been used in the United States, Southeast Asia, Australia, and New Zealand for many years and has a well-known and proven performance. This has been demonstrated by independent laboratory and field studies carried out by universities and government testing facilities around the world.

Characteristics

Tim-bor Industrial combines a broad spectrum of efficacy and low acute mammalian toxicity. It has proven efficacy against wood decay fungi, wood boring beetles, and termites. *Tim-bor* Industrial does not contain any organic or heavy metal components and, as it is applied as an aqueous solution, does not use organic solvents.



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Solubility

Solubilities at the temperatures in the table are under equilibrium conditions. *Tim-bor* Industrial readily dissolves in cool water to give supersaturated solutions with high boron concentrations.

Solubility in water, as $\text{Na}_2\text{B}_4\text{O}_{10} \cdot 4\text{H}_2\text{O}$	
Temperature °C (°F)	% by weight
0 (32)	2.5
10 (50)	4.5
20 (68)	9.7
30 (86)	21.9
40 (104)	27.4
50 (122)	34.3
60 (140)	40.7

pH

Aqueous solutions of *Tim-bor* Industrial range from mildly alkaline at low concentrations to approximately neutral at higher concentrations.

pH	
% by weight in saturated solution	pH @23°C (73°F)
1%	8.5
2%	8.4
5%	8.0
10%	7.6
15%	7.3

Registration

Tim-bor Industrial is registered with the U.S. EPA and the PMRA in Canada. For registration status in other countries, please contact product stewardship.

Containers

- 25 kg (55 lbs) multi-wall paper bags with a polyethylene moisture-resistant film barrier
- 1,500 lb (680 kg), 1,700 lb (771 kg), 1,850 lb (839 kg), and 2,000 lb (907 kg) IBCs with polyethylene liner

About U.S. Borax

U.S. Borax, part of Rio Tinto, is a global leader in the supply and science of borates—naturally-occurring minerals containing boron and other elements. We are 1,000 people serving 650 customers with more than 1,800 delivery locations globally. We supply around 30% of the world’s need for refined borates from our world-class mine in Boron, California, about 100 miles northeast of Los Angeles.

About 20 Mule Team products

U.S. Borax produces the *20 Mule Team*[®] borates family of products from naturally occurring minerals and have an excellent reputation for purity and safety when used as directed. Borates are key ingredients in a number of industrial applications including fiberglass, glass, ceramics, batteries and capacitors, wood preservatives, and flame retardants.

High quality, high reliability, high performance borate products. It’s what we’re known for.

Notice: Before using these products, please read the Product Specifications, the Safety Data Sheets and any other applicable product literature. The descriptions of potential uses for these products are provided only by way of example. The products are not intended or recommended for any unlawful or prohibited use including, without limitation, any use that would constitute infringement of any applicable patents. Nor is it intended or recommended that the products be used for any described purposes without verification by the user of the products’ safety and efficacy for such purposes, as well as ensuring compliance with all applicable laws, regulations and registration requirements. Suggestions for use of these products are based on data believed to be reliable. The seller shall have no liability resulting from misuse of the products and provides no guarantee, whether expressed or implied, as to the results obtained if the products are not used in accordance with directions or safe practices. The buyer assumes all responsibility, including any injury or damage, resulting from misuse of the product, whether used alone or in combination with other materials. THE SELLER MAKES NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE SELLER SHALL HAVE NO LIABILITY FOR CONSEQUENTIAL DAMAGES.