



# SODIUM PERBORATES

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## DESCRIPTION

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Sodium perborates serve as a source of active oxygen.

It is inorganic peroxide, odorless, water-soluble chemical compound prepared in a form of MONOHYDRATE ( $\text{NaBO}_3 \cdot \text{H}_2\text{O}$ ) or TETRAHYDRATE ( $\text{NaBO}_3 \cdot 4\text{H}_2\text{O}$ ). Belinka Perkemija produces both forms of sodium perborate.

Sodium perborate is a white, free-flowing, crystalline powder that dissolves readily in water and produces an alkaline solution with oxidative properties.

When mixed with water sodium perborate reacts releasing hydrogen peroxide. High stability is an exclusive property to this compound. The hydrogen peroxide formed by this reaction effectively kills microbes.

# SODIUM PERBORATES

## APPLICATION OF SODIUM PERBORATE

The detergent industry is the largest consumer of sodium perborate. It is used in the chemical as well as in the textile industry, and also for cleaning (e.g. automatic dishwashers, stain removers in form of bleach booster tablets). Its efficiency could be boosted at lower temperatures with the addition of TAED activator. Peracids, biocidal active substances could be generated in-situ by reaction of peroxide and carboxyl compound - TAED and sodium perborate forming peracetic acid with powerful oxidative and disinfection action.

Sodium perborate can be used as a preservative in the artificial eye drops.

In cosmetics and personal care products, sodium perborate is used in the formulation of body and hand products, hair dyes and colors, and hair bleaches. It is present in some tooth bleaching formulas as well.

Sodium perborate could be further on used as additive for hydraulic fracturing, as an addition agent for use in the production of batteries, fuel cells, for aquaculture (fish farming and shrimp farming), for production of fuel for auxiliary propulsion systems for satellites, etc.

## IDENTIFICATION OF THE PRODUCT

**Trade name:** SODIUM PERBORATE MONOHYDRATE  
**Substance name:** PERBORIC ACID, SODIUM SALT, MONOHYDRATE  
**IUPAC name:** Sodium perborate  
**Molecular formula:**  $\text{NaBO}_2(\text{OH})_2$   
**Molecular Mass:** 99,8 g/mol  
**CAS No.:** 10332-33-9 (11138-47-9)\*  
**EI NECS No.:** 234-390-0  
**CUSTOMS TARIFF NO (HS CODES):** 2840 3000

## IDENTIFICATION OF THE PRODUCT

**Trade name:** SODIUM PERBORATE TETRAHYDRATE  
**Substance name:** PERBORIC ACID, SODIUM SALT, TETRAHYDRATE  
**IUPAC name:** Sodium perborate  
**Molecular formula:**  $\text{NaBO}_2(\text{OH})_2 \times 3\text{H}_2\text{O}$   
**Molecular Mass:** 153,9 g/mol  
**CAS No.:** 10486-00-7 (11138-47-9)\*  
**EI NECS No.:** 234-390-0  
**CUSTOMS TARIFF NO (HS CODES):** 2840 3000



## DIFFERENCES

### between Monohydrate and Tetrahydrate regarding application and performance

The monohydrated form has further on higher heat stability and a higher dissolution rate into water.

The essential difference between both Sodium Perborates is in the AVOX (free active oxygen): Monohydrate has AVOX minimum 15 % and is used for low temperature wash, but on contrary Tetrahydrate has AVOX minimum 10 % only.

The other differences between Monohydrate and Tetrahydrate regarding application and performance are:

	SODIUM PERBORATE MONOHYDRATE	SODIUM PERBORATE TETRAHYDRATE
<b>Molecular Mass</b>	99,8 g/mol	153,9 g/mol
<b>AVOX (free active oxygen)</b>	minimum 15 %	minimum 10 %
<b>Bulk density</b>	530 – 630 g/dm <sup>3</sup>	750 – 850 g/dm <sup>3</sup>
<b>Efficiency</b>	at lower temperatures than sodium perborate tetrahydrate	at temperatures above 60 °C





## PACKAGING

Sodium perborate is delivered in the following packaging units:

- 20, 25 kg PE bags
- 500, 550 kg flexible IBC (PE big bags)
- 1.000, 1.050 kg flexible IBC (PE big bags)
- in bulk

## MORE INFORMATION

There are more data available in TDS (technical data sheet), specifications and advices regarding products issued by Belinka Perkemija.

Additional information relating to dangerous and physical-chemical properties, and other information that affect the safe use and handling of the product, can be found on the safety data sheet.

For additional information, please contact our Technical Service Team, phone +386 1 5886 330; e-mail: [perkemija@belinka.si](mailto:perkemija@belinka.si).



**belinka perkemija**

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