

ProxyClean Use in the Winery

TECHNICAL DATA



Product Description

Sodium Carbonate Peroxyhydrate ($2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$) is sold by Barrel Builders under the trade name of ProxyClean™ and is a white, odorless, crystalline powder. ProxyClean when added to water releases hydrogen peroxide, a powerful disinfectant. ProxyClean has become the standard replacement for chlorine-based products in barrels that have “gone-off” due to bacterial or viral growth, but has a myriad of other uses in the winery.

Antimicrobial Properties

ProxyClean™ is a common component of “color safe” laundry bleaches. As an oxygen-based bleaching agent it provides over 13% available oxygen; the remaining breakdown products are water and sodium carbonate (soda ash), making it an environmentally

friendly product.

As a powder, ProxyClean™ is easy to scoop and use. It dissolves rapidly,

is odor free, and loses little effectiveness when properly stored.

The hydrogen peroxide is active against a wide variety of organisms: bacteria, yeast, fungi, viruses and spores. Anaerobes are very sensitive to hydrogen peroxide since they do not produce catalase to break down the peroxide. At recommended dosages, ProxyClean will prevent the growth of vegetative bacteria. As for most biocides, hydrogen peroxide requires longer contact time to kill yeast, some viruses and bacterial spores. The antimicrobial activity of ProxyClean is dependent on concentration, level of contamination, pH, temperature and exposure time. That is why Barrel Builders recommends soaking a barrel with a solution of ProxyClean™ for 24 hours.

Tables can be obtained from Barrel Builders showing the antimicrobial and sporicidal activity of ProxyClean on specific organisms.

Potential Uses

ProxyClean has a myriad number of uses, but since it is approved for use around food it is a natural choice for use on wooden cooperage and other winery equipment. It is an excellent bleaching agent - in a concentrated solution we have found it will bleach the exterior of a barrel back to white. It is also effective at removing tartrate deposits and sulphites from barrels. We also found it works fine in the dishwasher and to remove stains from our concrete floor!

Remember that any attempt to bring back a barrel that has gone off is just that - an attempt. A stronger solution will be more powerful, but more than 2 cups (16 oz.) per barrel may strip some of the oak flavors. Whatever amount you use, be sure the ProxyClean is totally dissolved, rinse the barrel thoroughly after treatment and use a citric acid rinse to normalize the pH.

Cleaning Barrels with ProxyClean

1. Rinse the barrel to be sure it is free of debris and residues.
 2. Add 12 to 16 ounces of ProxyClean to a container. A 5 gallon pail will work fine.
To treat a barrel with VA or an aldehydic barrel, use 16 ounces up to a maximum of 24 ounces.
 3. Add cold or warm water to the container. (Hot water causes the oxygen to release too fast.)
- BE SURE THE PROXYCLEAN IS DISSOLVED!**
4. Add the ProxyClean solution to the barrel.
 5. Insert a hose into the barrel and fill completely with water, being sure the solution is well mixed.
 6. Allow the solution to stand in the barrel for 24 hours.
 7. Drain, then rinse the barrel several times with cold water using a hose or barrel rinser.
 8. Inspect the barrel to be sure all residue has been removed.
 9. Neutralize the barrel with a citric acid wash.
 10. Empty the barrel and fill with wine or sulphur the barrel for storage.

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Cleaning Lines and Hoses with ProxyClean

Rinse lines with water. Use warm water and ProxyClean at a rate of 4 to 6 ounces per gallon. Be sure hoses are vented. Allow solution to circulate in hoses as long as possible - 30 minutes minimum. Rinse with cold water. Sodium Percarbonate will not interfere with the action of surfactants or chelating agents used in wash systems, but should not be used with chlorine compounds.

Status of Sodium Percarbonate

Sodium Percarbonate (ProxyClean) is a mixture of hydrogen peroxide and sodium carbonate, both of which are approved for uses in food applications (21 CFR 184.1366 and 184.1742).

According to 21 Code of Federal Regulations, section 184.1366; hydrogen peroxide is approved for use as a bleaching agent. It also states that hydrogen peroxide may be in the form of a compound salt, sodium carbonate peroxide (Sodium Percarbonate). The regulations governing the use of hydrogen peroxide in these applications also apply to the use of Sodium Percarbonate, which requires that the residual hydrogen peroxide is removed by appropriate physical and chemical means.

Additional information on safety data can be found on the MSDS sheet. If you do not have one on file, please contact Barrel Builders.

Properties of Sodium Percarbonate

Sodium Percarbonate (ProxyClean) is a moderately strong oxidative alkali with the following typical properties.

<i>Appearance</i>	<i>White, free flowing granular solid</i>
<i>Available oxygen</i>	<i>13.0% minimum</i>
<i>Bulk density (g/cm³)</i>	<i>1.00 - 1.17</i>
<i>Attrition (ISO test)</i>	<i><5%</i>
<i>Free moisture</i>	<i><0.1%</i>
<i>Iron (ppm)</i>	<i>20.0 max</i>
<i>Solubility (g/l at 20° C)</i>	<i>120</i>
<i>Rate of Solubility (2 g/l @ 15° C)</i>	<i>100% after 2 minutes</i>
<i>pH (1% solution @ 20° C)</i>	<i>10.4 - 10.7</i>
<i>Mean particle size, microns</i>	<i>350 - 500</i>

Storage and Handling

- refer to MSDS for detailed procedures.

Storage

- Store in a cool, dry place.
- Keep unused material in air-tight container.
- Keep away from heat and heat sources.
- Rotate inventories: first in, first out.
- Keep away from organics, acids, reducing agents and metallic contamination.

Personal Safety

- Wear a dust mask, monogoggles and protective clothing.
- Avoid contact with eyes and skin. Sodium Percarbonate is a severe eye irritant.

First Aid

- Eyes: Immediately flush with large amounts of water for at least 15 minutes. Seek medical attention.
- Skin: Wash with soap and water. Brush off and remove contaminated clothing.
- Ingestion: Drink large amounts of water to dilute. Seek medical attention.
- Inhalation: Leave contaminated area immediately; breathe fresh air.

Spills

- Do not return spilled material to storage container.
- Spills should be swept up and held in a dedicated plastic container for disposal in accordance with local regulations. If permitted, wash to drain with large amounts of water.
- Damp Sodium Percarbonate may initiate spontaneous combustion of flammable materials.

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