

## Medicinal Odors/ Phenols



**AIR & WATER QUALITY INC.**

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### Introduction

Medicinal odor is one of the most difficult water problems to solve. The medicinal odor is classic for a group of compounds called phenols. It can be described by the well owner as smelling like mouth wash (Listerine), band-aides, aromatic cedar or just medicine like. At low concentrations, the phenol odor can also be confused with the odor of chlorine. If the water is placed on the skin, the odor can be detected on the skin for hours after the initial contact. This odor is also very often accompanied by hydrogen sulfide. The hydrogen sulfide odor can be strong enough to mask the medicinal odor. Since the phenol odors will linger long after the hydrogen sulfide odor has disappeared, we sometimes suggest the well owner draw a glass of water and let it set over night. If the odor remains in the water after setting over night, it is likely water contains phenols.

This phenomenon is not very common and to our knowledge has not been successfully treated by any other water treatment company. We typically see it show up in new wells after the water has been run for some period of time although we have seen it appear immediately. It does sometimes leave on its own after using the well for an extended period of time.

### Treatment

Phenols can be removed by carbon. They do require a long contact time. A typical household will require the use of two 2.5 cubic foot carbon filters. Even with this amount of carbon water flow may have to be restricted to no more than 5 gpm.

The phenols will quite often be accompanied by an organism that is somehow protected from chlorine by the phenol compounds. The organism thrives in the carbon. If the carbon is not periodically sanitized, it will become what is called "septic". When the carbon goes "septic" it will impart a strong hydrogen sulfide odor to the water. The carbon can be protected from this by sanitizing the carbon every 4-5 days. This disinfection cannot be accomplished with chlorine as it will be destroyed by the carbon. We have found a material that can sanitize the carbon because it is not removed by the carbon. This material can cause manganese to dissolve in the water. If manganese does develop, the system will require the addition of a water softener.

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