

Meggeneder, M., Lomotowski, J., Wiercik, P. Use of Iron(III) Chloride Sulfate for the Treatment of Filter Backwash Water. *Ochrona Srodowiska* 2011, Vol. 33, No. 4, pp. 53–56.

Abstract: The study reported on in this paper was performed in the groundwater treatment plant Wasserwerk Langenberg (Germany) and included pilot plant investigations into the treatment of filter backwash water. To support sedimentation of suspended solids in the filter backwash water, use was made of Fe(III) chloride sulfate as a coagulant. The experiments were conducted to determine the influence of aeration and Fe(III) chloride sulfate on the composition of the filter backwash water after sedimentation in a settling tank over a period of 1 to 48 h. The results show that under these conditions filter backwash water should be treated using Fe(III) chloride sulfate doses ranging from 8 to 16 gFeClSO₄/m³, with simultaneous 1-hour aeration upon coagulant addition. The study has produced the following finding: When use is made of Fe(III) chloride sulfate as coagulant, the backwash water streams from the rinsing of filter beds designed for iron and manganese removal from groundwater can be treated with such efficiency that permits their recirculation to the treatment train, or their reuse as technological water.

Keywords: Filter backwash water, water treatment, iron removal, iron(III) chloride sulfate.