

Differentiation between different kinds of mixing in water purification – Back to basics

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Abstract

The term mixing is confusing because it is used to describe transport mechanisms for both flash mixing (reagent dispersion and homogenisation with water mixing) and agitation (flocculation mixing) because each of these mechanisms requires different flow characteristics in order to take place with maximum efficiency. Flash mixing should take place under conditions of mixing on macro-scale with macro-turbulent eddies being formed and agitation under conditions of mixing under micro-scale with micro-turbulent eddies being formed. Agitation takes place under high- or low-intensity agitation. Only the conditions of agitation can be characterised by velocity gradient. Differentiation between flash mixing and agitation is discussed.

Keywords: mixing, agitation, mixing intensity, homogenisation, flocculation