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Review

Application of peroxymonosulfate and its activation methods for degradation of environmental organic pollutants: Review

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1 **Application of peroxymonosulfate and its activation methods for degradation**
2 **of environmental organic pollutants: Review**

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13 **Abstract**

14 The degradation of refractory organic compounds to harmless matters is one of the major
15 concerns of environmentalists. Advanced oxidation processes (AOPs) are promising
16 technologies producing the hydroxyl and sulfate radicals for pollutant degradation. Recently,
17 much attention has been paid to producing sulfate radicals by peroxymonosulfate (PMS) as
18 precursor for sulfate radical production. Nowadays, the use of PMS has acquired popularity
19 thanks to its high reactivity and also to its high potential in generating sulfate radical. Actually it
20 is becoming an alternative for hydrogen peroxide and persulfate. PMS is an unsymmetrical
21 oxidant which can be activated to produce both hydroxyl and sulfate radicals. Various methods
22 of PMS activation have been reported in literature including transitional metals (homogenous
23 and heterogeneous), ultraviolet, ultrasound, conduction electron, carbon catalysts and so on.
24 PMS activation has been broadly applied for a wide range of pollutants mostly in aqueous

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