



ИНСТИТУТ ЗА ОПШТУ И ФИЗИЧКУ ХЕМИЈУ INSTITUTE OF GENERAL AND PHYSICAL CHEMISTRY

Belgrade, 14.09.2022 attn

██████████, De Project Manager

PIKUA RENSE PTY LTD PO ██████████

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Dear ██████████

Please find enclosed description of a chemistry of the Pikua Rense (Danka Range) sanitiser and disinfectant.

Many biocides can affect the environment and human health, interfere with ecosystems and have a influence on human health. As a result, a global shift towards sustainable products supporting a toxic-free environment is taking place.

The persulfates category includes molecules with similar chemical structure and similar physical-chemical properties. The inorganic substances differ only by the cationic portion of the salt, which is not expected to influence the hazardous properties of the molecule. The anionic part is identical and, therefore, the three salts ammonium, potassium and sodium

The most important for ecological point of view is that persulfates are not expected to bioaccumulate in the soil or in aqueous solution. They will decompose into inorganic sulfate or bisulfate.

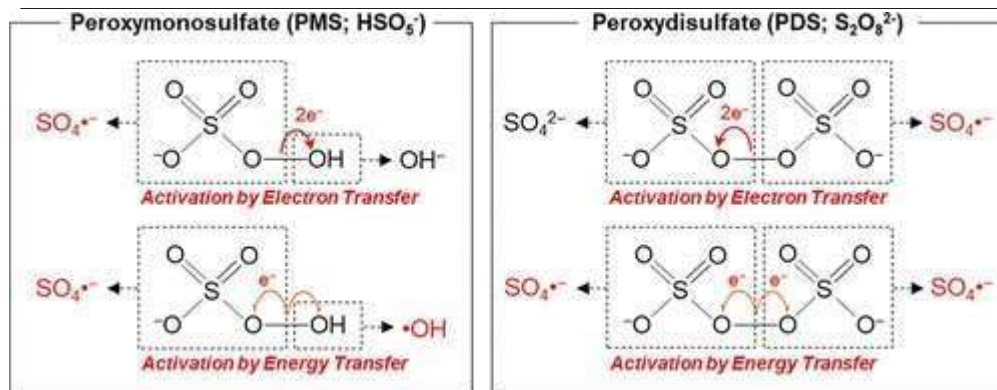
This product is synergy between active oxygen and radical disinfection. As a mixture of four components, two are active biocides, active at low temperature, and one filler and one auxiliary with impact on low temperature solubility. New approach to formulation biocide compounds, and use of powder components and dilution before use. Modern, economic, ecological product one sachet to one bottle and only a minute of mixing, and ready for action.

Widely applied biocides include alcohols, organic acids and their esters, aldehydes, amines, quarternary ammonium compounds (QATs), halogen compounds, ionic silver and nanosilver, oxidizing agents, isothiazolones, phenols and biguanides

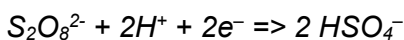
Persulfates are like hydrogen peroxide, oxidizing agent and the main target as biocide is nucleic acids in bacteria



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The standard oxidation-reduction potential for the reaction is 2.1 V, as compared to 1.8 V for hydrogen peroxide (H_2O_2). This potential is higher than the redox potential for the permanganate anion (MnO_4^-) at 1.7 V, but slightly lower than that of ozone at 2.2 V. So, the persulfate combination is very powerful oxidant, and there is no way for microorganisms to have any resistance on oxidation.

Please do not hesitate to contact us if you have any questions.

We sincerely hope this data will help you in your further work.

Best regards



Head of Lab

dr Stevan

dr Aleksandra Radulović,

Blagojević, gen manager

