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Radioactive waste destruction using molten salt oxidation

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A molten salt oxidation (MSO) process is being studied for the safe and effective destruction of organic components of radioactive waste. The work involves a laboratory-scale molten salt oxidation system where solid or liquid waste is injected into a bed of molten carbonate salt in the presence of an oxidizing gas. The relatively simple MSO process completely destroys organic compounds, and the carbonate salt neutralizes any generated acid gases and retains the radioactivity. In the past, high melting point salts have been used with air oxidation. In these studies, the use of low melting point salts and stronger oxidizing agents are being investigated for the destruction of radioactive waste oil and ion exchange resins. Work on the recovery of uranium from lignites will also be presented.

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