

Tech Snapshot Materials and Coatings

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SAFE LARGE SCALE PREPARATION OF URANIUM HALIDES



SUMMARY

The technology is an improved process for the production of uranium halides, including UCl_3 , which is used as a fuel for certain types of new nuclear reactors and in the refining of spent nuclear fuels.



MARKET

A recent market report predicts that the global nuclear fuels market will grow at a CAGR of above 2% from 2017-2021.. The rising awareness of the carbon emissions will be one of the primary drivers for market growth.

BENEFITS

- Significantly improves safety
- Uses common, cost-effective, available reagents
- Eliminates regulated, toxic reagents

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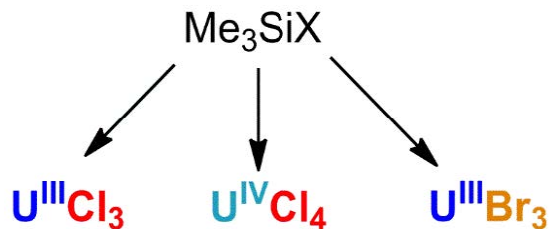
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WHY WE ARE BUILDING **LARGE SCALE PROCESSES** for URANIUM HALIDES

The need to lower carbon emissions will lead the power generation market towards cleaner electricity technologies such as nuclear power.



WHAT'S BEHIND OUR **TECHNOLOGY**

The procedure uses readily available reagents and a stream-lined safe chemical process to synthesize uranium halides on scale. We eliminate the use of gaseous hydrogen chloride on uranium hydride or the reduction of uranium tetrachloride with hydrogen gas, which occur at temperatures above 650 °C. The safer protocols and ubiquitous reagents used by our technology decreases overall cost.



OUR **COMPETITIVE ADVANTAGES**

This technology provides a safe method to produce UCl_3 , which is used as a nuclear fuel and in the electrometallurgical refining of spent nuclear fuels. Other current methods and patents still rely upon molten salts and toxic, heavy metals.



OUR **TECHNOLOGY STATUS**

We are looking to partner with industries for commercial scale batch processing. Potential industries include: Fine chemical industries, nuclear engineering and energy companies



PUBLICATIONS AND IP

Provisional Patent (S133637) "Actinide Complexes and Methods of Making the Same" filed July 11, 2018.