



CLEANAZINE COLLABORATION

Calca Solutions (Calca) is a specialty products business that manufactures high-purity hydrazine (HPH) for in-space propellant and defense use cases, as well as hydrazine derivatives for agriculture, water treatment, pharmaceutical and industrial applications.

Calca has more than 70 years of experience producing mission critical space propulsion materials through a longstanding relationship with the Defense Logistics Agency — Energy (DLA-E). The company is playing an important role in helping the U.S. government onshore multiple chemicals to help secure its domestic supply chain, which is critical to national security. Satellites, lunar landers and space vehicles rely on hydrazine thrusters for altitude control

and orbit maintenance, and demand for HPH is increasing due to growth in commercial and U.S. government satellites. Non-toxic disposal of hydrazine that does not rely on incineration or traditional neutralizing agents has been challenging.

Cleanazine, a collaboration between NASA and university researchers, was developed as a unique, hydrazine neutralizing solution. Using Cleanazine, the dissolution of hydrazine is based on an organic compound that yields water and stable acid byproducts that are safe to release into sewer systems. Cleanazine provides an advantage in the exothermic reaction it produces; where there was previously an intense chemical reaction, it is now a more mild and manageable reaction, where the output is comparable to warm bathwater. AEI pursued the acquisition of Cleanazine to add to the technology and manufacturing capabilities of the company.

Calca customers that had previously opted for less operationally challenging propulsion material due to concerns about extended cleanup and turnaround time now have the option to quickly neutralize hydrazine thrusters with the use of Cleanazine. The two products will be sold together as propulsion material and treatment.

By integrating Cleanazine into its offerings, Calca is pioneering an innovative solution that complies with environmental and safety standards, enhancing its market position, attracting new customers and opening new market segments. By complying with environmental safety standards and strengthening its role in the domestic supply chain, we believe that Calca is also contributing to national security and driving operational efficiency.

