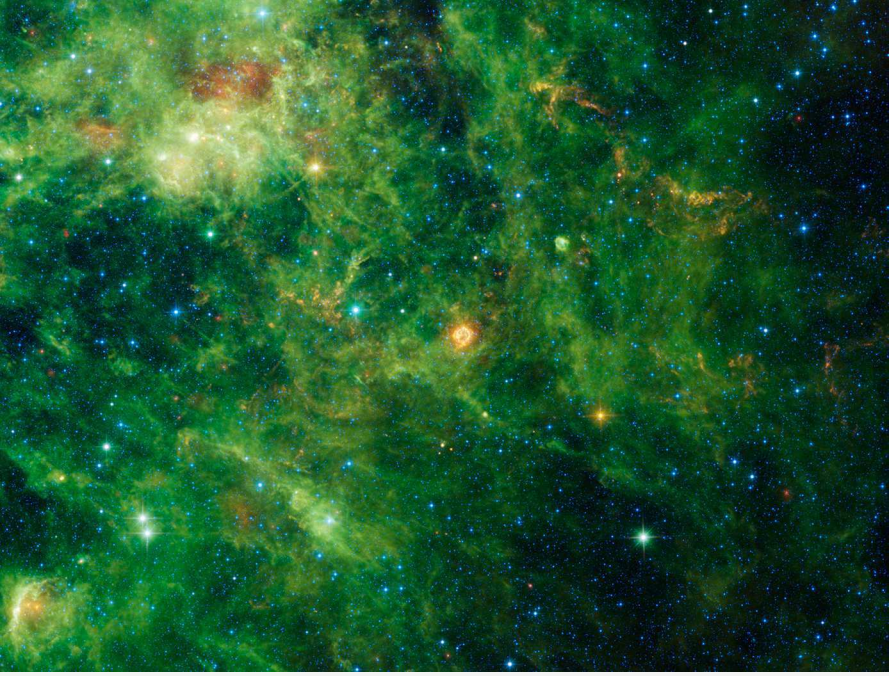


National Aeronautics and
Space Administration

technology solution

Mechanical and Fluid Systems

Green Precision Cleaning

VOC-Free Tube and Pipe Cleaning System

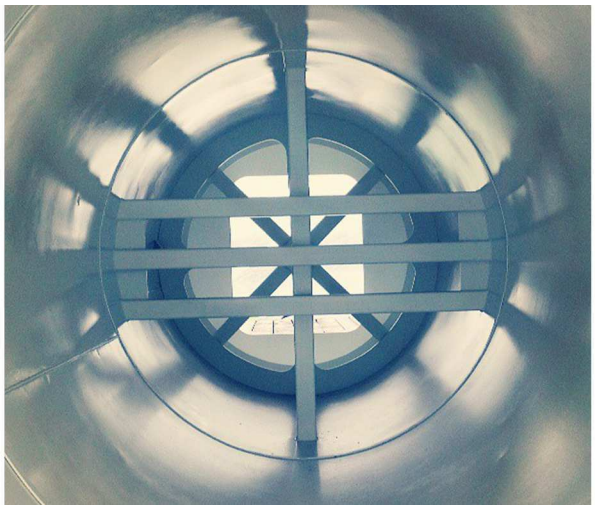
NASA Goddards scientists have developed a novel, volatile organic compound (VOC) free system for cleaning tubing and piping that significantly reduces cost and carbon consumption. The innovative technology enables the use of deionized water in place of more costly isopropyl alcohol (IPA), and does not create any waste for which costly disposal is usually required. It uses nitrogen bubbles in water, which act as a scrubbing agent to clean equipment. The cleaning system quickly and precisely removes all foreign matter from tubing and piping.

BENEFITS

- Portable, Eco-Friendly Design
- Effective: Cleaning effectiveness equal to or better than IPA processes
- Low Cost: eliminates the need for IPA and waste disposal

THE TECHNOLOGY

NASA's Precision Green Cleaning invention was developed to clean flight tubing. The technology has potential to be useful to industries where IPA is commonly used to clean tubing and piping, or potentially where other water-cleaning applications are used. Such industries may include Aerospace, Pharmaceutical, Bioprocessing, and Food and Beverage. Precision Green Cleaning may also be used to clean microelectronics equipment, parts and surfaces.



Inside a NASA fuel tank

APPLICATIONS

The technology has several potential applications:

- Replacement for IPA in tube and pipe cleaning
- Other water cleaning applications
- Aerospace, Pharmaceutical, Bioprocessing, and Food and Beverage industries
- Cleaning microelectronics equipment, parts and surfaces

PUBLICATIONS

Patent Pending

More Information

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NASA's Technology Transfer Program pursues the widest possible applications of agency technology to benefit US citizens. Through partnerships and licensing agreements with industry, the program ensures that NASA's investments in pioneering research find secondary uses that benefit the economy, create jobs, and improve quality of life.

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