

# White Sands Test Facility



Since 1963, **NASA White Sands Test Facility (WSTF)** has been a center of technical excellence in the fields of high-pressure oxygen systems and materials, and rocket propellant safety. Because of its remote location, WSTF can safely perform hazardous testing of reactive, explosive, and toxic materials and fluids; oxygen materials and systems testing; flight hardware processing; and propulsion altitude systems testing.

WSTF has tested rocket propulsion systems for NASA, DoD, DoE, and private industry; over 550 rocket engines fired in more than 3.5 million firings.

## WSTF Tests Materials and Propulsion Systems

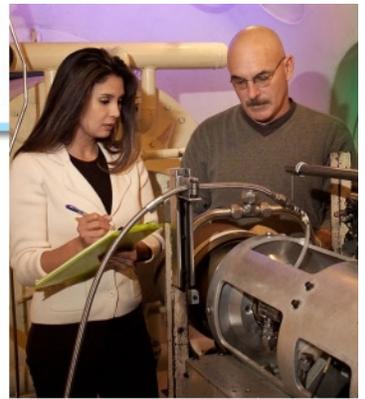
- Ignition, flammability, odor, and offgassing
- Materials compatibility with routine or hazardous fluids
- Aerospace fluid systems and components
- Hypervelocity testing
- Solid/liquid rocket systems up to 60,000 lb thrust
- Nine rocket engine/system test stands, including six vacuum cells
- Long-duration high-altitude simulation
- Off-limits and life-cycle testing

## WSTF Conducts Research and Development

- Burn-resistant alloys
- Blast phenomena and propellant explosion studies
- Propellant chemistry and characterization
- Spacecraft material properties
- Metals –Polymers –Composites

## WSTF Produces Safety Manuals

- Oxygen, MMH, dinitrogen tetroxide, hydrazine, and hydrogen manuals
- Ignition and thermal hazards of selected aerospace fuels manual
- Liquid methane and hydrogen peroxide manuals



## WSTF Prepares and Hosts Training Courses

- Composite overwrap pressure vessel damage detection course
- Cryogenic, hypergolic propellants, and hydrogen handling and training courses
- Oxygen systems operation, maintenance, management, and fire hazard courses
- Aerospace materials and components testing
- Liquid methane hazards training

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## WSTF Provides Technical Consultation

- Hazards/failure analyses with system design evaluation and recommendations
- Oxygen, hydrogen, propellant hydrazines, nitrogen tetroxide
- Cryogenic and hypergolic propellant handling

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## WSTF Offers Technical Capabilities

- Remote hazardous testing of reactive, explosive, and toxic materials and fluids
- Art and culture of performing smart testing
- Hypergolic fluids materials and systems testing
- Chemical, physical, and metallurgical analyses
- Nondestructive evaluation techniques
- State-of-the-art analytical instrumentation
- Fourier transform infrared spectroscope
- Flight component fabrication, cleaning, and refurbishment
- Instrumentation calibration to NIST standards

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## WSTF's Future



- Next generation space exploration vehicles
- Commercial and industrial enterprise partnerships
- Educational outreach

## We Support The Future...

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