

username

LOGIN

New Account »
Forgot Password?

Type your search term here

GO

Advanced Search »

Ads by Google

US Army - Official Site

Earn \$2,000 when you refer someone to the Army. Details inside! www.army.mil

Aluminator

Aluminum Brightener, Oxide Remover Cleans and Brightens Bare Aluminum www.orisonmarketing.com

Identify Unknown Material

Powders, fibers, plastics, liquids polymers, contaminations www.EMSL.com

Aluminum Chemicals

Surepure sells Aluminum Chemicals. Including Aluminum oxide and others <http://aluminum.surepure.com>

Propulsion, Engines and Missiles ▾ Combustion and Ignition

Burning Characteristics of Individual Aluminum/Aluminum Oxide Particles

Authors: [Eric C. Ruttenberg](#); [NAVAL POSTGRADUATE SCHOOL MONTEREY CA](#)

Abstract: An experimental investigation was conducted in which the burning characteristics of individual aluminum/aluminum oxide particles were measured using a windowed combustion bomb at atmospheric pressure and under gravity-fall conditions. A scanning electron microscope (SEM) was used to measure the size distribution of the initial aluminum particles and the aluminum oxide residue. Analysis of the residue indicated that the mass of aluminum oxide contained in particles larger than 12 microns was less than 25 percent, in good agreement with data reported from aluminized solid propellant. The measured particle size distributions and photomicrographs implied that the burning aluminum particles periodically expel aluminum oxide fragments with sizes between 14 and 36 microns.

Limitations: ✓ APPROVED FOR PUBLIC RELEASE
Description: Master's thesis
Pages: 49
Report Date: 20 JUN 96
Report Number: A164513

Keywords relating to this report:

- [ALUMINIZED PROPELLANTS](#)
- [ALUMINUM](#)
- [ALUMINUM OXIDES](#)
- [BAROMETRIC PRESSURE](#)
- [COMBUSTION](#)
- [ELECTRON MICROSCOPES](#)
- [ELECTRONIC SCANNERS](#)
- [FRAGMENTS](#)
- [MASS](#)
- [PARTICLE SIZE](#)
- [PARTICLES](#)
- [PHOTOMICROGRAPHY](#)
- [SOLID PROPELLANTS](#)
- [THESES](#)

Adobe PDF - \$19.95
 Printed Format - \$32.95

ADD TO CART

Please check the box for the format you wish to order.

[Shipping Terms](#)
[About Electronic Delivery](#)

[Email This Abstract](#)