



CRANE

Thermite Torch Composition

Track Code: CRANE-97179

Categories:

- Chemistry and Chemical Analysis
- NSWC Crane

Keywords:

- Chemistry and Chemical Analysis
- Crane
- Demolition
- Law Enforcement
- Military
- Welding

Naval Surface Warfare Center, Crane Division (NSWC Crane) has developed and patented a series of compositions for thermite pyrotechnics which offer enhanced material perforation, increased reaction temperatures, and decreased toxicity. Thermite is a pyrotechnic composition of a metal powder and a metal oxide. When ignited, thermite produces an exothermic reaction with extremely high temperatures. These compositions are composed of magnalium, copper oxide, molybdenum, and a binder material. These three patents represent the optimal combination of components to enhance material perforation, improved gas production, temperature stability, heat transfer, shelf life, and low toxicity.

Advantages:

- Enhanced material perforation
- Improved gas production
- Temperature stability
- Heat transfer
- Longer shelf life
- Decreased toxicity

Potential Applications:

- Disaster Clean-up
- Law Enforcement
- Mining
- Metal Cutting and Welding
- Demolition

People:

- D'Arche, Steve (Project leader)
- Melof, Brian
- Swanson, Travis

Intellectual Property:

Application Date: (None)
Type: CON-Patent
Country of Filing: United States
Patent Number: 7,998,291
Issue Date: August 16, 2011

Application Date: (None)
Type: CON-Patent
Country of Filing: United States
Patent Number: 7,988,802
Issue Date: August 2, 2011

Application Date: (None)
Type: Utility Patent
Country of Filing: United States
Patent Number: 7,632,365
Issue Date: December 15, 2009

Contact OTC:

Purdue Office of Technology Commercialization
The Convergence Center
101 Foundry Drive, Suite 2500
West Lafayette, IN 47906

Phone: (765) 588-3475
Fax: (765) 463-3486
Email: otcip@prf.org