Environmental Remediation of TATP, TNT and RDX Nitro Explosives Utilizing Bimetal Micro Catalysts

Technical Details

More recent research utilizes metallic catalysts to degrade these contaminations. Unfortunately these reagents only work under specific environmental conditions and often degrade the explosives into TAT, which is considered far more hazardous than the parent TNT contamination. Additionally, utilizing these methods TATP degradation must be done in a lab setting which requires disturbing the contamination zone and then handling this highly dangerous and unstable compound. Research scientists at UCF have created a bimetal catalyst that degrades these explosives at quicker rates, while producing less toxic degradation products. Bimetals combined with other technologies such as emulsified zero valent metal (EZVM) provides an in situ (on site) method for TNT, RDX and TATP remediation in the environment.

Benefits

• Faster degradation of nitro explosive compounds and TATP
• Final degradation products produced are more environmentally friendly than other current remediation methods
• Bimetal catalyst can be used directly at the site of contamination

Applications

• Direct cleanup and degradation of explosives found in soil, groundwater and structures

Additional Technology Numbers: 32356

For more information, contact:
Brion Berman | 407.882.0342 | brion.berman@ucf.edu | Tech ID #31605
UCF Office of Technology Transfer | 12201 Research Parkway, Suite 501, Orlando, FL 32826
See related technology: "On-Site Destruction of Explosive Peroxides Utilizing Metallic Based Nanoparticle Catalysts"
Technology number: 30915

Technology #31605

Inventors
Christian Clausen, Ph.D. • Rebecca Fidler • Michael Sigman, Ph.D. • Cherie Yestrebsky, Ph.D.

For more information, contact:
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