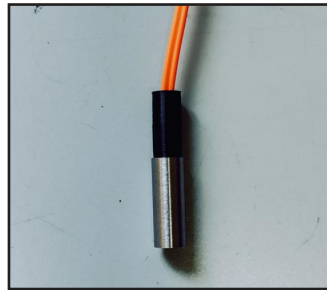


NanoPyro developed a new type of lead- and heavy metal-free electric detonator based on activated carbon and perchlorate salt as primary charge. With an optimized primary charge of 260mg, we are able to effectively detonate PETN and reach similar dimension as commercially available detonators. This innovant carbon and perchlorate based primer displays 10 times reduced sensitivities to external stimuli and excellent thermal stability compared to classical

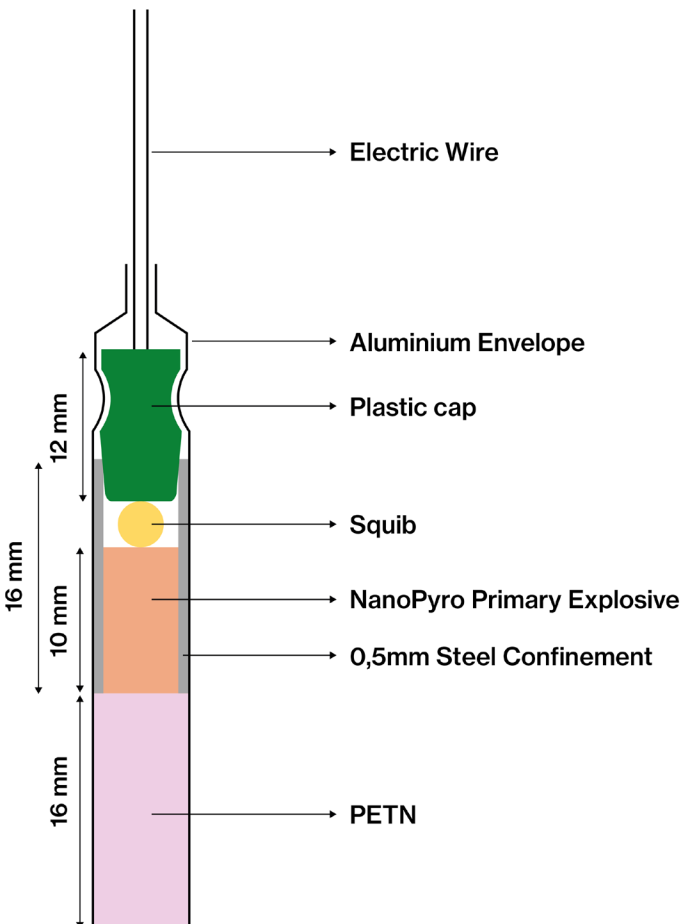
primary explosive such as lead azide (LA), being therefore comparable to secondary explosives. This reduced sensitivity allows to significantly decrease the production costs. Our new primary explosive displays comparable initiation capability and performances as LA. The straightforward synthesis only requires water, does not produce any waste, and the supply chain is inherently resilient.

INSIDE PART

Primary explosive pressed in steel container



FINAL DETONATOR



Primary Explosive Characteristics

<i>Mass (g)</i>	0.260
<i>Density (g/cm³)</i>	1.30
<i>VOD (m/s)</i>	3600
<i>Ignition Temp (°C)</i>	350

Sensitivity Comparison with Lead Azide

	<i>NanoPyro</i>	<i>LA</i>
<i>Friction (N)*</i>	120-160	10
<i>Impact (J)**</i>	25	2
<i>ESD (mJ)</i>	>50	5

*STANAG 4489

**STANAG 4487

