

## Guanidinium Azotetrazolate (GZT)

Guanidinium Azotetrazolate (GZT) is a nitrogen rich, carbon poor stable organic compound having the empirical formula (C<sub>4</sub>H<sub>12</sub>N<sub>16</sub>). The decomposition products of GZT are mostly gases consisting of elemental nitrogen as the major product. Since the heat of formation of nitrogen is zero, the decomposition products of GZT are inherently cool and inert. GZT is highly insensitive to mechanical and thermal stimuli and is found as a good fuel additive for gas generator compositions and a good alternate to sodium azide, which is more hazardous to environment.

### Salient Features

- Nitrogen rich organic energetic fuel.
- Produces cool nitrogen gases on decomposition. Insensitive to mechanical and thermal stimuli.
- Good alternate to sodium azide used in gas generators.
- Versatile energetic compositions can be made by adjusting oxygen balance.

### Applications

- Fuel for making cool composite gas generators.
- Fuel for making pyrotechnic charges for power cartridges.

### Properties

Sl. No.	Properties of GZT	
1.	Colour	Yellow
2.	State	Amorphous solid
3.	Molecular Weight	284
4.	N-content (%)	78.9
5.	C-content (%)	16.9
6.	Heat output (cal/g)	360 ± 60
7.	Friction sensitivity (kgf)	> 36
8.	Impact sensitivity (kg. cm)	> 320
9.	Decomposition Temperature (°C)	252 ± 6