TECHNOLOGY TRANSFER

Interest Exploratory Note

5-Aminoterazole Nitrate

5-Aminotetrazole Nitrate (ATN) is a nitrogen rich oxidizer having the empirical formula CH4N6O3. An ingredient in gas generating solid propellant/charge composition. Burns faster and yields only non-corrosive gases free from HCl upon combustion. Thus making it ideal ingredient for Green Propellant.

Salient Features

- Nitrogen rich energetic oxidizer.
- Non hygroscopic in nature, hence alternate to Ammonium nitrate. Non HCl producing, good alternate to Ammonium Perchlorate.
- Acts as monopropellant.
- Compositions made out of ATN are fast burning.

Applications

- Can be used as energetic material in power cartridges.
- Can be used as oxidizer for making cool gas generating propellant.

Properties

Sl. No.	Properties of ATN	
1.	Colour	Colourless
2.	State	Crystalline powder
3.	Molecular Weight	148
4.	N-content (%)	56.7
5.	O-content (%)	32.4
6.	Heat output (cal/g)	1000±50
7.	Friction sensitivity (kgf)	> 36
8.	Impact sensitivity (kg.cm)	> 50
9.	Decomposition Temperature (oC)	175

Department of Space has authorised NSIL for Technology Transfer of 5-Aminoterazole Nitrate to suitable entrepreneurs/ Industry in India. Interested Parties may please fill the enclosed form and send by email to contact-nsil@isro.gov.in