

Supporting Information

Table S1 Toxicological Information of Studied Explosives

Compound	Acute Toxicity: LD ₅₀ (Oral)		Reference
	Mice	Rats	
TNT	660 mg/kg	607 mg/kg	Journal of Toxicology and Environmental Health. Vol. 9, Pg. 565, 1982; International Journal of Toxicology. Vol. 19, Pg. 169, 2000
RDX	59 mg/kg	100 mg/kg	National Technical Information Service. Vol. AD-A092-531; Toxicology and Applied Pharmacology. Vol. 39, Pg. 531, 1977
NTO	>5000 mg/kg	>5000 mg/kg	M. W. Smith, M. D. Cliff, Aeronautical and Maritime Research Laboratory, DSTO-TR-0796

In viva study results show that NTO has LD₅₀ values for oral ingestion of more than 5g/kg in mice and rats and hence it is non-toxic to mice and rats compared to others. Among the three, RDX is more toxic and the developed composition based on NTO-TNT will be relatively much less toxic compared to RDX-TNT in toxicological aspects (Ref: *Environmental toxicology and chemistry*, 2015, **34**, 873).

Electrostatic Discharge Sensitivity

ESD data of NTO, TNT and RDX are below given

Compound	ESD (J)	Reference
TNT	0.138	M. W. Smith, M. D. Cliff, Aeronautical and Maritime Research Laboratory, DSTO-TR-0796; M. D. Cliff, M. W. Smith, DSTO-TR-0998, 2000
NTO	>4.5	
RDX	0.45	

From the Table it can be inferred that NTO is much insensitive than RDX and hence, it can be understood that SNT0/TNT composition shall be insensitive than RDX/TNT (as these were physical mixtures).

Figures

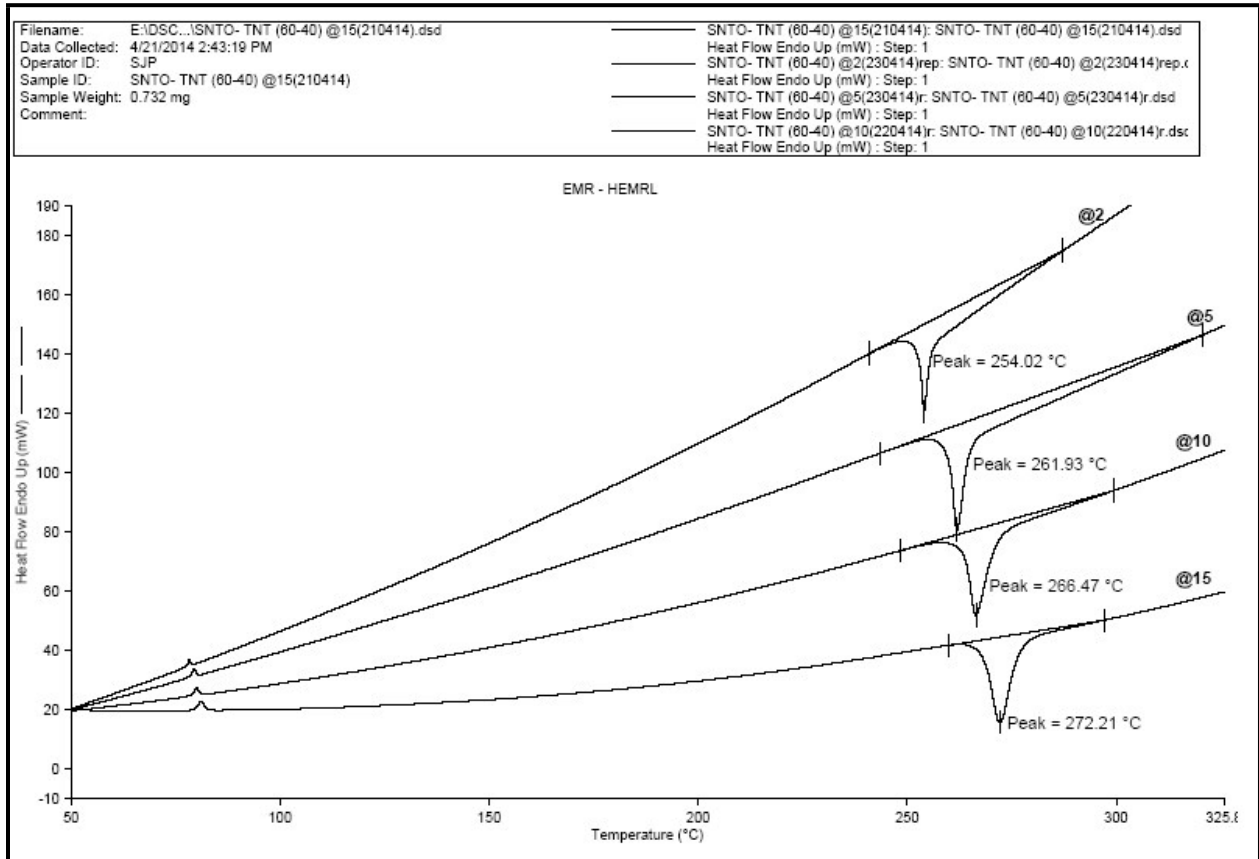


Fig. S1 DSC thermograms of Spherical NTO/TNT (60:40) at different heating rates

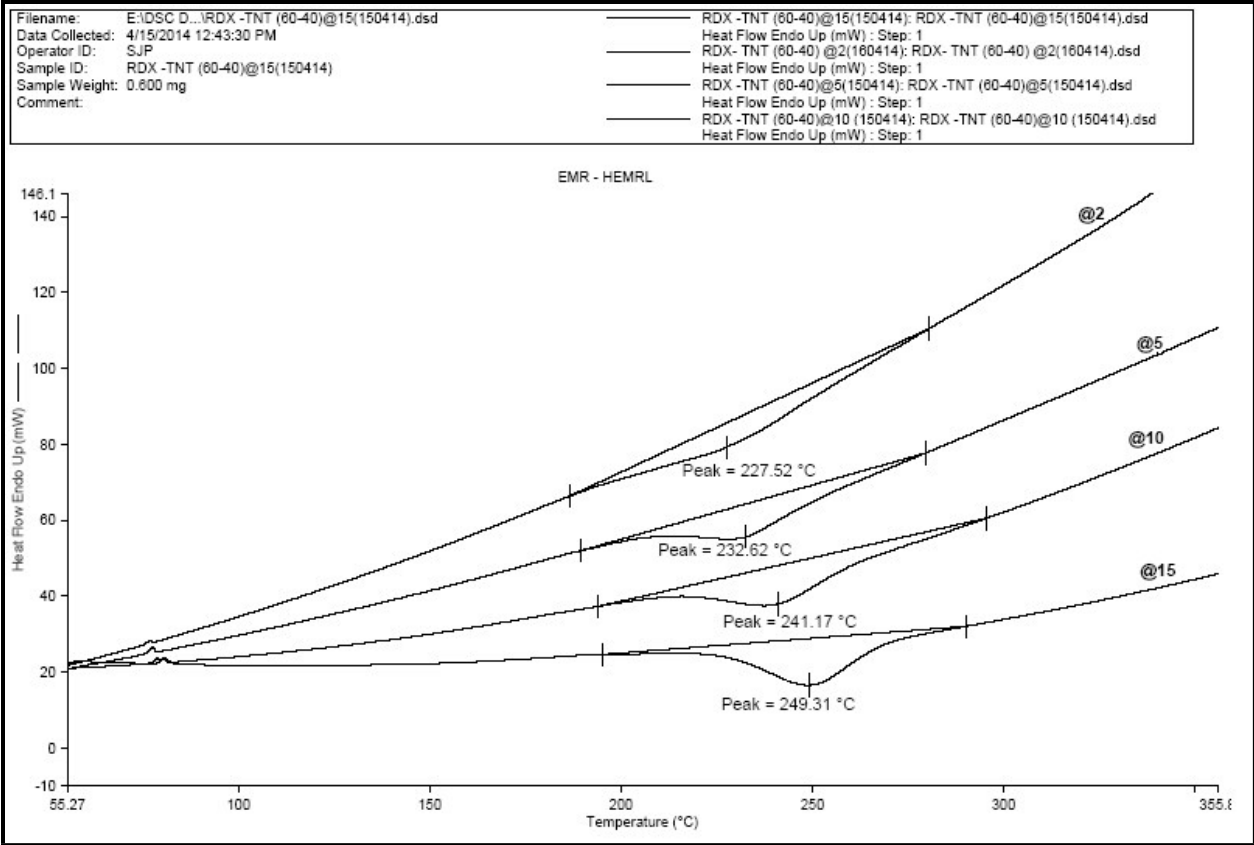


Fig. S2 DSC thermograms of RDX/TNT (60:40) at different heating rates