



Research Department Explosive (RDX)

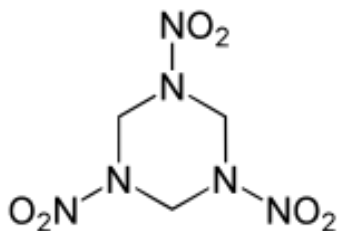
Single Molecule Explosive

Description

RDX explosive material comes in a crystalline powder form of a white color without visible impurities or signs of moisture.

Application

RDX is used in mixtures with other explosives and plasticizers or phlegmatizers for production of various explosive compositions (FH-5, FH-2.5, Comp B, A-3, A-4, A-5, etc.), used in warhead main charges, ammunition, boosters, pyrotechnic devices and oil well explosive charges.



Specifications

Chemical Formula: $(O_2NNCH_2)_3$
Specification: MIL-DTL-398C Type I and II
CAS: 121-82-4
Synonyms: cyclonite, hexogen, T4, cyclotrimethylenetrinitramine.

Appearance: white solid powder
Odor/Taste: odorless, tasteless
Granulation: Class 1 to 5
Molecular Weight: 222.12 g/mol
Water Solubility: insoluble
Melting Point: 190°C
Boiling Point: 234°C

Acetone Insolubility: $\leq 0.05\%$ (m/m)
Content of Ash: $\leq 0.03\%$ (m/m)
Acidity HNO_3 : $\leq 0.05\%$ (m/m)
Acidity CH_3COOH : $\leq 0.05\%$ (m/m)
 β HMX Content: 0 to 0.5% (m/m)

Density: 1.814 g/cm³ at 20°C
Detonation Velocity: 8750 m/s at 1.62 g/cm³
Oxygen Balance: -21.6% (m/m)
Explosion Heat: 5.723 MJ/kg
Impact Sensitivity: 7.5 N/m
Friction Sensitivity: 120 N

Toxicology Data LD_{50} :
Oral, Rat: 71 mg/kg

Hazard Class: 1.1 D
UN Number: 0072
Shipping Name: RDX, wetted
Packing: 25 ± 0.2 kg per cardboard box
 380 x 375 x 335 mm