



TriNitroToluene (TNT)

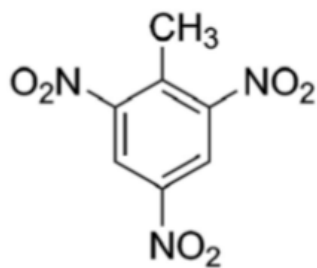
Single Molecule Explosive

Description

TNT explosive material comes in a crystalline form with flakes of a light yellow to yellow color with no visible mechanical impurities or signs of humidity. Bound flakes may occur and can be split by hand.

Application

TNT is used for production of various commercial and military explosive compositions, used in warhead main charges, ammunition, boosters and pyrotechnic devices.



Specifications

Chemical Formula: $C_6H_2(NO_2)_3CH_3$
Specification: MIL-DTL-248D Type I compliant
CAS: 118-96-7
RTECS: XU0175000
EINECS: 204-289-6
Synonyms: Benzene, 2-methyl-1,3,5-trinitro, Entsufof, 1-Methyl-2,4,6-trinitrobenzene, NCI-C56155 alpha-TNT, 2,4,6-trinitrotoluene, TNT-tolite, Tolit, Tolite, Trilit

Appearance: solid yellow flakes
Odor/Taste: odorless, tasteless
Molecular Weight: 227.13 g/mol
Water Solubility: 0.013 g/l at 20°C
Octanol Partition: 1.6 K_{OW} Coefficient
Solidification Temp.: $\geq 80.2^\circ C$
Boiling Point: 240°C
Flash Point: 290 to 300°C
Vapor Pressure: 1.99×10^{-4} mm Hg
Density: 1.654 g/cm³ at 20°C
Detonation Velocity: 7000 m/s at 1.62 g/cm³
Expl. Calorific Heat: 4299 MJ/kg (kcal/kg)
Spec. Vol. of Expl.: 750 l/kg
Expl. Transit. Temp: 3100°C
Fugacity: 285 to 290 cm³ (GOST 4546)
Electric Resistance: 10^7 to 10^{10} Ohm.m

Toxicology Data LD₅₀:

Oral, Mouse: 660 mg/kg
Oral, Rat: 795 mg/kg

Hazard Class: 1.1 D
UN Number: 0209
Shipping Name: Trinitrotoluene flaked (TNT)
Packing: 25 ± 0.2 kg per cardboard box
 393 x 293 x 304 mm