



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities!*

PRESENTATION ON

HIGH EXPLOSIVES

CUFS 2416 EXPLOSIVE AND POST BLAST INVESTIGATION

B.SC. FORENSIC SCIENCE (SEM 6)
SCHOOL OF FORENSIC SCIENCES
BHUBANESHWAR CAMPUS

CONTENT

- Introduction
- Explosives
- High explosives
 - Types of high explosives
- Applications

EXPLOSIVES

- Explosives are substance of three basic Physical states of matter, Which when switchably ignited, suffer rapid decomposition with liberation of heat and Production of large volume of gas out high Pressure.
- Basically 2 types
- a.Low explosives
- b.High explosives

HIGH EXPLOSIVES

- A high explosive is any chemical mixture that detonates with a reaction velocity over 5000 feet per second. The reaction can be initiated by a No. 8 strength blasting cap.
- High explosives will be referred to Type E explosives, and there will be three sub-types in this group:
- E.1 – blasting and bulk explosives (explosives used for commercial blasting applications or for their manufacture);
- E.2 – perforating explosives (intended for use in the oil and gas well industry);
- E.3 – special-application explosives (high explosives used for other applications, including primary explosives).

TYPES OF HIGH EXPLOSIVES

- Blasting and bulk explosives (explosives used for commercial blasting applications or for their manufacture); ...
- Perforating explosives (intended for use in the oil and gas well industry); ...
- Special-application explosives (high explosives used for other applications, including primary explosives).

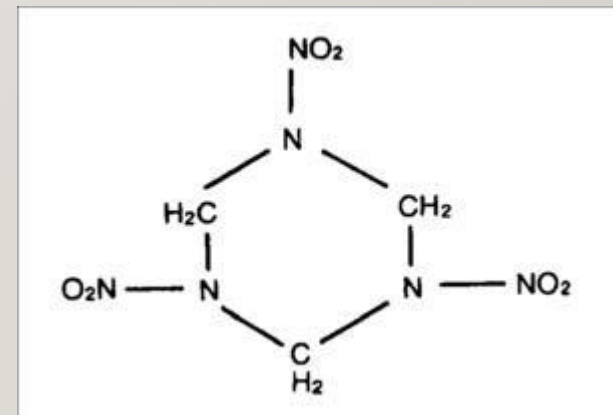
I. Straight Dynamite – Nitroglycerin in an absorbent, with velocities between 10,000 and 20,000 feet per second.

- This dynamite is the most sensitive of all commercial explosives. The weight strength is the actual percentage of nitroglycerin in the cartridge.
- This explosive has poor fumes, good water resistance, and poor cohesion

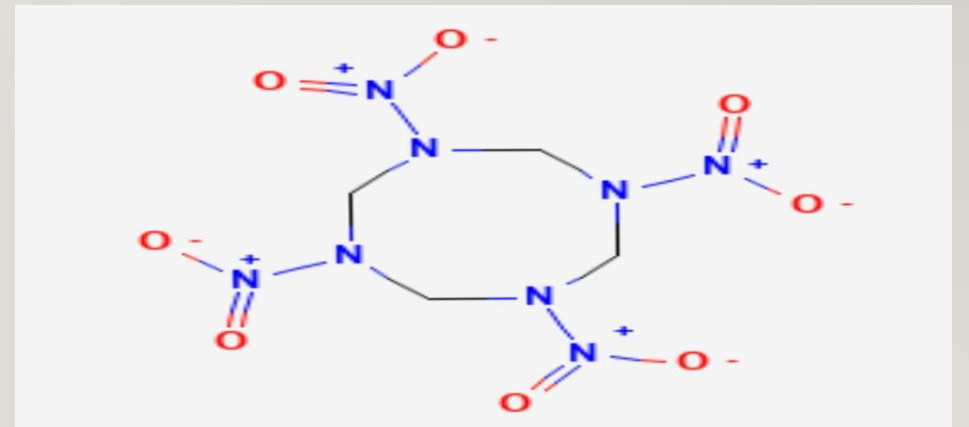
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- **2. Ammonia Dynamite**-This is similar to straight dynamite except that ammonium and/or sodium nitrate and various carbonaceous fuels are substituted for a portion of the nitroglycerin. This product has a detonation velocity of 8000 to 13,000 feet per second, good water resistance, and fair to good fumes.



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- **RDX**:RDX is a nitramine explosive compound (Turley and Brewster 1987) that can be utilized as a propellant, gunpowder, or high explosive depending on the initiation type (Boileau et al. 2009). RDX has both military and civilian applications.



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- **HMX:**HMX is used to implode fissionable material in nuclear devices to achieve critical mass and as a component of plastic-bonded explosives, solid fuel rocket propellants, and as burster chargers in military munitions (EPA 1988).



APPLICATIONS

- mining,
- demolition
- military use.

THANK YOU.

