

EXPLOSIVES

- Explosives are defined as; chemicals or compounds that causes a sudden, almost instantaneous release of pressure, gas, heat and light when subjected to sudden shock, pressure, high temperature or applied potential.
- In general, an explosive has four basic characteristics:
 - i. It is a chemical compound or mixture ignited by heat, shock, impact, friction, or a combination of these conditions
 - ii. Upon ignition, it decomposes rapidly in a detonation
 - iii. There is a rapid release of heat and large quantities of high-pressure gases that expand rapidly with sufficient force to overcome confining forces
 - iv. The energy released by the detonation of explosives produces some basic effects

- The ingredients in explosives manufactured are classified as:

✓ Explosive bases

✓ Air gap sensitivity

✓ Combustibles

✓ Cap Sensitivity

✓ Oxygen carriers

✓ Strength

✓ Antacids

✓ Detonation Pressure

✓ Absorbents

✓ Gas Pressure

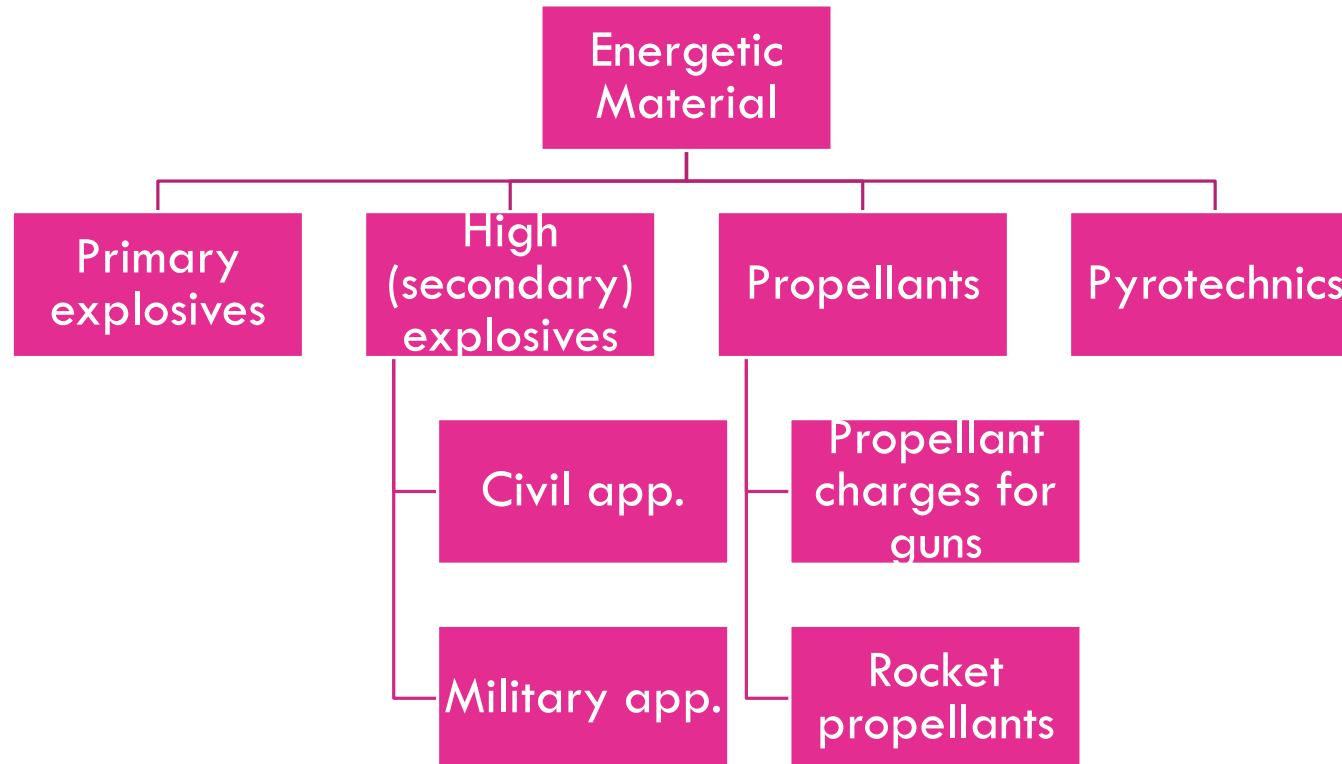
✓ Antifreeze

Properties of Explosives

- i. Density
- ii. Detonation and borehole pressure
- iii. Water resistance
- iv. Fume class
- v. Shelf life
- vi. Permissibles or permitted explosives

Types of Explosives

Energetic materials which derive their energy from a chemical reaction can be classified according to their use.



CHEMICAL WARFARE MATERIALS

- **Chemical warfare (CW) agents** are extremely toxic synthetic chemicals that can be dispersed as a gas, liquid or aerosol or as agents adsorbed to particles to become a powder.
- Thousands of toxic substances are known, but only some of them are considered as CW agents based on their characteristics, high toxicity, imperceptibility to senses and rapidity of action after dissemination and persistency, and are listed as scheduled chemicals in the Chemical Weapons Convention (CWC).

- According to the CWC, chemical weapons are defined as toxic chemicals and their precursors, munitions and devices, and any equipment specifically designed for use directly in connection with such weapons.
- The CW agents possess different characteristics and belong to various classes of compounds with pronounced physicochemical, physiological and chemical properties. Thus, they are classified in many ways.
- In general, classification in terms of physiological effects produced on humans by the CW agents is used for many decades.

The CW agents used in warfare are classified as follows:

- Nerve agents
- Vesicants (blistering agents)
- Bloods agents (cyanogenic agents)
- Choking agents (pulmonary agents)
- Riot-control agents (tear gases)
- Psychomimetic agents
- Toxins