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**Smectic Liquid crystal**

The smectic part of liquid, that is outlined as being cherish the slippery, thick residue found at the lowest of soap dishes, is characterised by a small degree of change of location order within the crystal molecules that isn't found within the nematic part. whereas keeping similar orientation and inform within the same direction because the molecules in nematic liquid do, during this part the molecules tend to line themselves up into layers. whereas these layers as a full move freely, movement inside the layers is restricted; thus, it creates a rather additional solid substance. Smectic liquid has been found to possess quick electro-optical time interval and since of this is often used, beside nematic liquid, in manufacturing liquid show (LCD) screens.

Properties :-

1. These liquid crystal are charecteised by their very high optical rotation.

2. The pitch of the spiral and the reflected colour depends sensitively on the temperature.

 **Cholesteric Liquid crystal**

The cholesteric section, conjointly referred to as chiral nematic section, is characterised by the molecules being aligned and at a small angle to one another, stacked at intervals terribly skinny layers– it's the last section before a substance becomes crystalline, or solid. this sort of liquid conjointly has the characteristic of adjusting color once it's exposed to completely different temperatures. it's for this reason that cholesteric liquid is employed in common home items like thermometers and mood rings

Properties :-

1. Each layer is a two dimensional liquid

2. The thick ness of the layer is very close to the full length of the constituent molecules.

Application :

1. It is used as lubricant.

2. These are used for detecting tumors in the body.

**Inter molecular force**

Intermolecular forces area unit outlined because the set of enticing and repulsive forces that occur between the molecules as a results of the polarity of the molecules.

When two or additional atoms area unit joined by chemical bonds they kind a molecule, electrons travel up to the new molecule and area unit focused within the most negativity atom space, the negativity is outlined as property that have the atoms or molecules to draw in electrons. The concentration of electrons in an exceedingly outlined space of the molecule creates a electric charge, whereas the absence of electrons creates a charge.

Dipoles area unit molecules that have negative and positive charged areas thanks to the negativity and concentration of electrons in molecules.

We can assimilate the action of a dipole with a magnet with its positive and electric charge, so if we tend to bring another magnet can attract the positive to negative and viceversa, ensuing a bond.