DPX and BPS Synthetic Resin Mountants

A mixture of **distyrene** (a polystyrene), a **plasticizer** (tricresyl phosphate), and **xylene**, called DPX, was introduced in 1939 and later modified by the substitution of a more satisfactory plasticizer, dibutylphthalate (butyl, phthalate, styrene - BPS).

This colorless, synthetic resin mounting media is now available at Electron Microscopy Sciences, DPX, and it has generally replaced xylene-balsam.

They preserve stains and dry quickly; surplus mountant may be peeled off the preparation after cutting around the cover slip with a razor blade or scalpel. They are not recommended for use with thick sections (eg. cellulose nitrate) where there is a danger of retraction of the mountant upon drying.
Refractive index (15 C) 1.525

Canada balsam, **yellow, oily, resinous exudation obtained from the balsam fir**. It is an **oleoresin** with a pleasant odor but a biting taste. It is turpentine rather than a true balsam. On standing, the essential oil in Canada balsam evaporates, leaving behind the resin as a hard, transparent varnish. Canada balsam is valued as an optical mounting cement, e.g., for lenses and microscope slides, since it yields, when dissolved in an equal volume of xylene, a noncrystallizing cement with a refractive index nearly equal to that of ordinary glass. It is used also in paints and polishes.

Canada balsam, also called Canada turpentine or balsam of fir, is a turpentine which is made from the resin of the balsam fir tree (Abies balsamea).

It is the fir's resin, dissolved in essential oils, and is a viscous, sticky, colourless (sometimes yellowish) liquid, that turns to a transparent yellowish mass when the essential oils have been allowed to evaporate.

Due to its high optical quality, its **refractive index (n = 1.55, very close to that of glass),** and its purity it is mainly used in optics as an invisible-when-dry glue for glass. It is soluble in xylene, amorphous when dried, and it does not crystallize with age, so its optical properties do not deteriorate.[citation needed]