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The most highly collected vintage plastic, Dr. Leo Baekeland patented the process of making bakelite in 1909. Similar materials like catalin used in radios and other consumer goods were made by other companies. Bakelite was very widely used and in demand for radios, jewelry, kitchen utensils and dinnerware, and as decorative features on other items like cocktail shakers. Bakelite is a type of plastic that is made under high heat, but it cannot be recycled. Bakelite is a very flexible material which can be decorated through molds, carvings, inlays, lamination, etc., and it could be made in most any color. Bakelite can change color, with whites usually turning more cream colored for example. The exposed area can darken and acquire scratches, and a type of patina forms on the surface. It can be opaque, translucent, or transparent. Most, but not all, Bakelite will emit an acid smell when placed under hot water. Bakelite is a sturdy material and is rather heavy, more so than celluloid or lucite.

Lucite is a resin created by DuPont in 1937. DuPont widely licensed Lucite for use in jewelry because it was inexpensive and easy to work with in carving, inlays, etc. Like Bakelite, Lucite could be manufactured in most any color and can run from opaque to transparent. Lucite was particularly popular from about 1940 to 1953, but it is still produced and widely used today. Imbedded Lucite made during this period by incorporating glitter, rhinestones, sea shells, and other materials was widely used in hard sided purses which are actively collected today.

Celluloid was one of the first plastics to be widely used in making jewelry. Celluloid was originally developed in England in the 1850s but first commercialized in 1868 by John Wesley Hyatt, whose company eventually became the American Celluloid and Chemical Manufacturing Company--subsequently the Celanese Corporation. Jewelry made of celluloid dates to about 1900 and was quite popular during the art deco period. Celluloid has characteristics which are different from other plastics. Celluloid items tend to be thinner and lighter than Bakelite, and it is definitely more brittle and can crack when heated to higher temperatures. Some celluloid pieces can even be flammable, and while more brittle than Bakelite it can still be bent or twisted. Under hot water, most celluloid has a smell like vinegar or old camphor. Celluloid jewelry can be damaged by moisture, temperature extremes, or chemicals. Celluloid that has been stored in a closed environment for long periods can also dull quite dramatically and even crack.

The best and safest way to test and identify vintage plastics is with simichrome polish which you can purchase at most hardware stores. It's somewhat expensive, but it is also great for polishing Bakelite, silver, and most any metal. Polished Bakelite will leave a yellow residue on the cloth regardless of what color the Bakelite is. Another good way to test for Bakelite is to hold it under hot water for about 30 seconds and then smell it. Bakelite has a very distinct odor

somewhat like a shellac. If there is no odor, it's likely the piece is Lucite Dow Bathroom Cleaner is widely used to test vintage plastics, but you have to be very careful not to harm any gloss finishes on the the piece being tested. Test this method on a small area first on the back or inside of a piece. Spray a small amount of Dow Cleaner on a swab and rub it on the test area for a few seconds. If the swab develops a yellow color regardless of the color of the plastic, the piece is probably Bakelite To be safe, wash the tested area immediately with warm water since it can damage the finish. You can also use Formula 409 in the same way as Dow, and it's probably safer for the Bakelite You can strip the finish or gloss from Bakelite if you rub too hard, making it dull and hard to restore. If you inadvertently do this, use simichrome polish to attempt to restore the finish. If necessary, repeat the polishing several times. Some people also use car wax to attempt this, but personally I prefer simichrome. It is possible for Bakelite to fail one of these tests if the piece is dirty, has an applied finish or sealant not original to the piece, or which has a damaged finish.