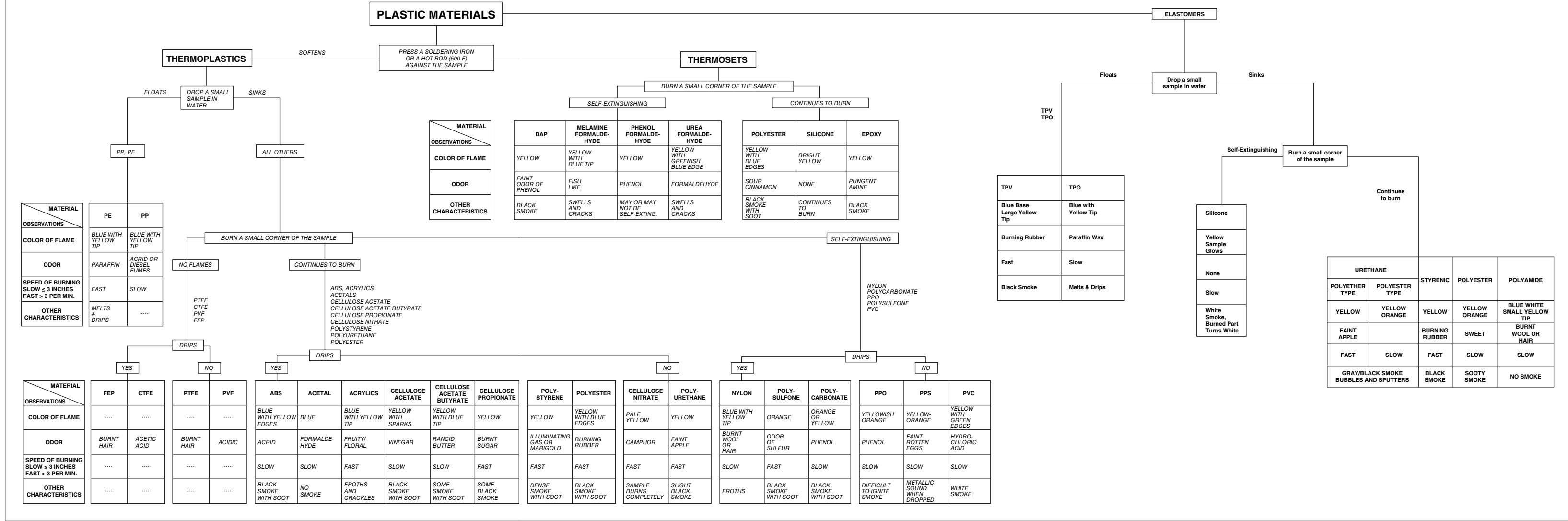


PLASTICS AND ELASTOMERS IDENTIFICATION CHART



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The plastics identification technique is laid out in flowchart for each step-by-step identification by process of elimination. This is shown in the plastics Identification Chart. There are some basic guidelines one must follow in order to simplify the procedure. The first step is to determine whether the material is thermoplastic or thermoset. This distinction is made by simply probing the sample with a soldering iron or a hot rod heated to approximately 500°F. If the sample softens, the material is thermoplastic. If not, it is thermoset. The next step is to conduct a flame test. It is desirable to use a colorless Bunsen burner. A matchstick can also be used in place of a Bunsen burner. However, care must be taken to distinguish between the odor of the materials used in the match and the odor given off by burning plastic materials. Before commencing the burning test, it is advisable to be prepared to write down the following observations:

1. Does the material burn?
2. Color of flame
3. Odor
4. Does the material drip while burning?
5. Nature of smoke and color of smoke.
6. The presence of soot in the air.
7. Self-extinguishes or continues to burn.
8. Speed of burning--fast or slow

To identify the material, compare the actual observations with the ones listed in the flowchart. The accuracy of the test can be greatly improved by performing similar tests on a known sample. While performing the identification tests, one must not overlook safety factors. The drippings from the burning plastic may be very hot and sticky. After extinguishing the flame, inhale the smoke very carefully. Certain plastics like acetals give off a toxic formaldehyde gas that may cause a severe burning sensation in the nose and chest.