GCMS Testing and Analysis of Plastics and Polymers

Characterization of Volatile and Semi-volatile Materials by Gas Chromatography – Mass Spectrometry (GC-MS)

Associated Polymer Labs provides GC-MS testing and analysis services to separate and characterize volatile and semi-volatile materials in various plastics, polymers and samples.

Our chromatography and separations laboratory has several gas chromatograph (GC) instrumentation equipped with mass spectroscopy (GC-MS), thermal-conductivity (GC-TCD), and flame-ionization (GC-FID) detection.

The samples Associated Polymer Labs are capable of analyzing by GCMS include:

<table>
<thead>
<tr>
<th>Plastics</th>
<th>Rubbers</th>
<th>Toys</th>
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</thead>
<tbody>
<tr>
<td>Bioplastics</td>
<td>Composites</td>
<td>Essential Oils</td>
</tr>
<tr>
<td>Polymers</td>
<td>Epoxy</td>
<td>Household Products</td>
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<tr>
<td>Elastomers</td>
<td>Cosmetics</td>
<td>(Consumer Products)</td>
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It is often determined that some components of the above sample types are of sufficient volatility and stability to be analyzed by GC. These components might include:

1) Unknown component analysis and identification
2) Monomers/Oligomers (Low Boiling)
3) Extractables and leachables from bulk or surface
4) VOCs (Degassing from samples as volatile organic compounds)
5) Semi volatile organic compounds
6) Additives – phthalates, phenol, stearates, slip agents, lubricants
7) Residual Solvents (Physisorbed)
8) Trace Impurities
9) Headspace and off odor analysis
10) Residual gas analysis from foam and packaging products