Chemical Substitutes

SafetyNet #: 72

This SafetyNet suggests chemical substitutes for commonly used chemicals to promote a safer work environment. Consider using the safer substitute if it works in your process:

Sample of Chemical Substitute List. View full list [here](#) [1].

<table>
<thead>
<tr>
<th>Original Material</th>
<th>Substitute</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetamide</td>
<td>Stearine acid</td>
<td>In phase change and freezing point depression.</td>
</tr>
<tr>
<td>Benzene</td>
<td>Alcohol and acetonitrile</td>
<td>No comment.</td>
</tr>
<tr>
<td>Benzoyl peroxide</td>
<td>Lauril peroxide</td>
<td>When used as a polymer catalyst.</td>
</tr>
<tr>
<td>Butyl or petroleum- Super Brute Orange (Applied containing cleaners)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon</td>
<td>Cyclohexane</td>
<td>In test for halide ions.</td>
</tr>
<tr>
<td>Tetrachloride Carbons</td>
<td>Isopropyl alcohol</td>
<td>Less toxic, better for environment.</td>
</tr>
<tr>
<td>Tetrachloride Chloroform</td>
<td>Dichloromethane</td>
<td>Kits also available for purification/isolation of DNA without organic solvents (Promega Corp, Stratagene). StrataClean resin for concentration of proteins.</td>
</tr>
<tr>
<td>Chloroform</td>
<td>Potassium hydroxide</td>
<td>last resort includes KOH/ethanol bath, acid bath or Nochromix</td>
</tr>
</tbody>
</table>

For additional information, contact the following vendors:

- Armchem International (888-276-2436/ARMCHEM.COM [2])
- ESPI (800-638-2581/ESPI-METALS.COM [3])
- Flinn Scientific, Inc. (800-452-1261/FLINNSCI.COM [4])
- Invitrogen Corporation (800-955-6288/invitrogen.com [5])
- National Diagnostics (800-526-3867/nationaldiagnostics.com [6])
- Phenix Research (800-767-0665/phenixresearch.com [7])
- PCC and RBD Detergents (800-874-3723/piercenet.com [8])
- Promega Corp (800-356-9256/promega.com [9])
- Stratagene (800-227-9770/genomics.agilent.com [10])

Contact

Research Safety
researchsafety@ucdavis.edu 530-752-1493
FAX: 530-752-4527

More information

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