

# **Polymer Class Terms in the Registry File**

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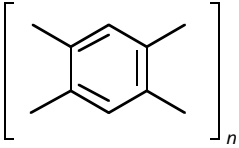
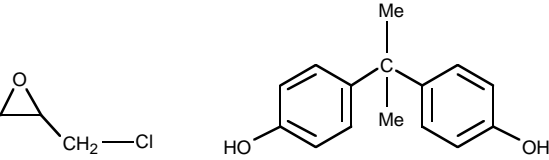
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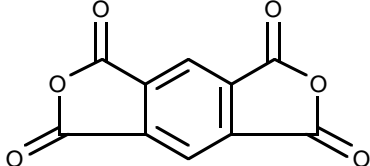
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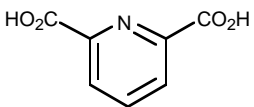
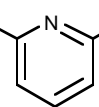
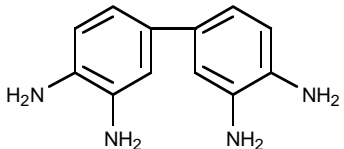
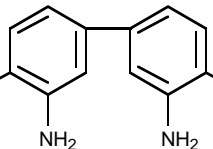
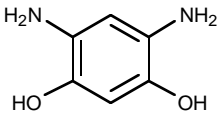
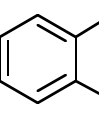

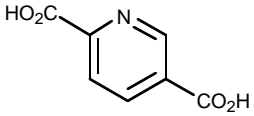
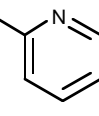
## Polymer Class Terms in the Registry File

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**DISPLAY Field:** PCT (Included in IDE, FIDE, and ALL)  
**Proximity:** (L) same as AND

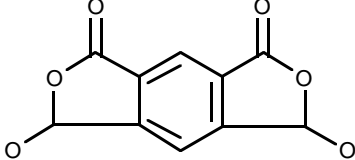
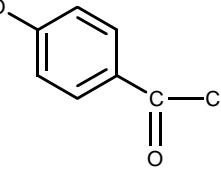
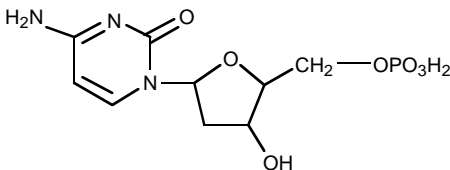
| Class Term    | Code   | Type of Polymer Retrieved   |
|---------------|--------|---|
| Amino Resin   | AR     | <p><b>Condensation polymers of amines with aldehydes (mainly formaldehyde).</b></p> <p>IN Formaldehyde, polymer with 1,5-pentanediamine (9CI)</p> <p>CM 1                                  CM 2</p> <p><math>\text{H}_2\text{N}-(\text{CH}_2)_5-\text{NH}_2</math>          <math>\text{H}_2\text{C}=\text{O}</math></p>  |
| Chloropolymer | CLPO   | <p><b>Monomer contains an acyclic <math>\text{C}=\text{C}-\text{Cl}</math> and has no atoms other than C, H, or Cl.</b></p> <p>IN 1-Butene, 1-chloro-, homopolymer (9CI)</p> <p>CM 1</p> <p><math>\text{H}_3\text{C}-\text{CH}_2-\text{CH}=\text{CH}-\text{Cl}</math></p>   |
| Double Strand | DBLSTR | <p><b>Uninterrupted sequence of rings with:</b><br/> <b>(a) adjacent rings having one atom in common (spiro polymers), or</b><br/> <b>(b) two or more atoms in common (ladder polymers), or</b><br/> <b>(c) combinations of both features (ladder-spiro polymers).</b></p> <p>IN Poly(1,2:4,5-benzenetetrail) (9CI)</p>  |
| Epoxy Resin   | EP     | <p><b>Epihalohydrin polymers with a diol.</b><br/> <b>Polymers of monomers containing two or more epoxy groups.</b></p> <p>IN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane (9CI)</p> <p>CM 1                                  CM 2</p>   |

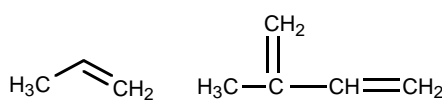

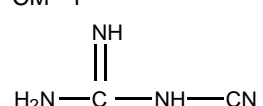
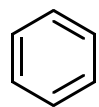
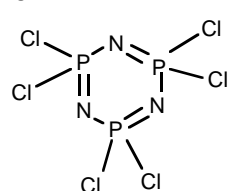
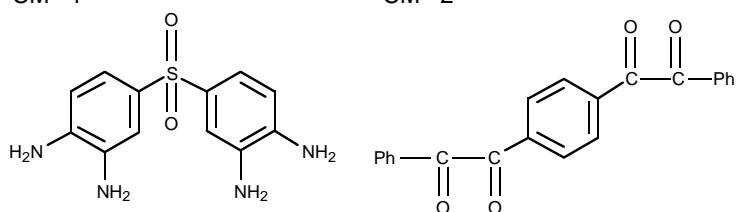
| Class Term          | Code | Type of Polymer Retrieved   |
|---------------------|------|---|
| Fluoropolymer       | FLPO | <p><b>Monomer contains an acyclic C=C-F and has no atoms other than C, H, F, or Cl.</b></p> <p>IN Benzene, (2-chloro-1,2-difluoroethenyl)-, homopolymer (9CI)</p> <p>CM 1</p> $\text{Ph}-\overset{\text{F}}{\underset{ }{\text{C}}}=\overset{\text{Cl}}{\underset{ }{\text{C}}}-\text{F}$   |
| Manual Component    | MANC | <p><b>Polymers with one or more manually-registered components. PCT term assignment may be incomplete for these polymers.</b></p> <p>IN Benzene, ethenyl-, polymer with PE 2136 (9CI)</p> <p>MF (C8 H8 . Unspecified)x</p> <p>CM 1<br/>CCI PMS, MAN</p> <p>CM 2<br/><math>\text{H}_2\text{C}=\text{CH}-\text{Ph}</math></p> <p>STRUCTURE DIAGRAM IS NOT AVAILABLE</p> |
| Manual Registration | MANR | <p><b>Manually-registered polymers (often identifiable only via tradenames). Polymers containing only manually-registered components.</b></p> <p>IN Yupimer FRS 1 (9CI)</p> <p>MF Unspecified</p> <p>CI PMS, MAN</p> <p>STRUCTURE DIAGRAM IS NOT AVAILABLE</p>  |
| Phenolic Resin      | PR   | <p><b>Polymers of phenols with aldehydes.</b></p> <p>IN Phenol, polymer with formaldehyde (9CI)</p> <p>CM 1</p> $\text{C}_6\text{H}_5\text{OH}$ <p>CM 2</p> $\text{H}_2\text{C}=\text{O}$   |
| Polyacetylene       | PACT | <p><b>Monomer contains a carbon-carbon acyclic triple bond.</b></p> <p>IN 1-Pentyne, 4-methyl-, homopolymer (9CI)</p> <p>CM 1</p> $\text{i-Bu}-\text{C}\equiv\text{CH}$   |

| Class Term    | Code | Type of Polymer Retrieved  |
|---------------|------|--|
| Polyacrylic   | PACR | <p><b>Monomer contains an acyclic C=C-Y, where Y is either: (a) a carbon atom with at least two N, O, or S attached (e.g., CO<sub>2</sub>H, CO<sub>2</sub>R, CH(OR)<sub>2</sub>, CONH<sub>2</sub>, etc.)</b></p> <p>IN 2-Propenoyl chloride, polymer with 2-propenenitrile (9CI)<br/> CM 1 <span style="margin-left: 200px;">CM 2</span></p> $\text{Cl}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2 \quad \text{H}_2\text{C}=\text{CH}-\text{C}\equiv\text{N}$ <p><b>(b) a carbon with a doubly bonded N, O, or S and a H attached (e.g., CHO, CHS, CHN, but not COC)</b></p> <p>IN 2,6-Octadienal, 3,7-dimethyl-, homopolymer (9CI)<br/> CM 1</p> $\text{Me}-\overset{\text{Me}}{\underset{ }{\text{C}}}=\text{CH}-\text{CH}_2-\text{CH}_2-\overset{\text{Me}}{\underset{ }{\text{C}}}=\text{CH}-\text{CHO}$ <p><b>(c) a CN group</b></p> <p>IN 2,4-Pentadienenitrile, homopolymer (9CI)<br/> CM 1</p> $\text{H}_2\text{C}=\text{CH}-\text{CH}=\text{CH}-\text{CN}$ <p><b>Only one group meeting the Y definition may be present on the C=C atoms, except that CN may be present if Y is not CN.</b></p> <p>IN 2-Propenoic acid, 2-cyano-, 4-methylpentyl ester, homopolymer (9CI)<br/> CM 1</p> $\text{Me}_2\text{CH}-(\text{CH}_2)_3-\text{O}-\overset{\text{O}}{\parallel}{\text{C}}-\overset{\text{CH}_2}{\parallel}{\text{C}}-\text{CN}$ |
| Polyamic acid | PAMA | <p><b>Polyamides containing a carboxy group (or thio analogs) adjacent to the amide linkage.</b></p> <p>IN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 1,6-hexanediamine (9CI)<br/> CM 1 <span style="margin-left: 200px;">CM 2</span></p> $\text{H}_2\text{N}-(\text{CH}_2)_6-\text{NH}_2$   |
| Polyamide     | PA   | <p><b>-CO-NH- amide linkages (or thio analogs) in the backbone.</b></p> <p>IN Decanedioic acid, polymer with N,N'-dimethyl-1,6-hexanediamine (9CI)<br/> CM 1 <span style="margin-left: 200px;">CM 2</span></p> $\text{MeNH}-(\text{CH}_2)_6-\text{NHMe} \quad \text{HO}_2\text{C}-(\text{CH}_2)_8-\text{CO}_2\text{H}$ <p><b>EXCLUSIONS:</b><br/> <b>Polymers formed from unsaturated amides (e.g., CH<sub>3</sub>-CH=CH-CO-NH<sub>2</sub>) by addition polymerization with resulting pendant amido groups.</b></p>  |

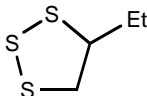
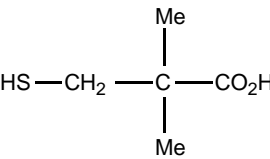
| Class Term        | Code | Type of Polymer Retrieved  |
|-------------------|------|--|
| Polyamine         | PM   | <p><b>Unquaternized amino groups in the backbone.</b></p> <p>IN 1,6-Hexanediamine, polymer with 1,2-dichloroethane (9Cl)</p> <p>CM 1 <span style="margin-left: 200px;">CM 2</span></p> <p><math>\text{H}_2\text{N}-(\text{CH}_2)_6-\text{NH}_2</math> <span style="margin-left: 100px;"><math>\text{Cl}-\text{CH}_2-\text{CH}_2-\text{Cl}</math></span></p> <p><b>EXCLUSIONS: Polyamines with quaternized amino groups in the backbone are considered Polyionenes.</b></p>   |
| Polyanhydride     | PANH | <p><b>-CO-O-CO- anhydride linkages (or thio analogs) in the backbone.</b></p> <p>IN Decanedioic acid, polymer with hexanedioic acid (9Cl)</p> <p>CM 1 <span style="margin-left: 200px;">CM 2</span></p> <p><math>\text{HO}_2\text{C}-(\text{CH}_2)_4-\text{CO}_2\text{H}</math> <span style="margin-left: 100px;"><math>\text{HO}_2\text{C}-(\text{CH}_2)_8-\text{CO}_2\text{H}</math></span></p>  |
| Polyazomethine    | PAZM | <p><b>-C=N- or -C=N-N=C- linkages in the backbone.</b></p> <p>IN Pentanedial, polymer with 1,6-hexanediamine (9Cl)</p> <p>CM 1 <span style="margin-left: 200px;">CM 2</span></p> <p><math>\text{H}_2\text{N}-(\text{CH}_2)_6-\text{NH}_2</math> <span style="margin-left: 100px;"><math>\text{OHC}-(\text{CH}_2)_3-\text{CHO}</math></span></p>  |
| Polybenzimidazole | PBI  | <p><b>Benzimidazole linkages in the backbone with the backbone running through both rings.</b></p> <p>IN 2,6-Pyridinedicarboxylic acid, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine (9Cl)</p> <p>CM 1 <span style="margin-left: 200px;">CM 2</span></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p><math>\text{HO}_2\text{C}</math>  <math>\text{CO}_2\text{H}</math></p> </div> <div style="text-align: center;">  <p><math>\text{H}_2\text{N}</math>  <math>\text{NH}_2</math></p> </div> </div>  |
| Polybenzoxazole   | PBO  | <p><b>Benzoxazole linkages in the backbone with the backbone running through both rings.</b></p> <p>IN 2,5-Pyridinedicarboxylic acid, polymer with 4,6-diamino-1,3-benzenediol (9Cl)</p> <p>CM 1 <span style="margin-left: 200px;">CM 2</span></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p><math>\text{H}_2\text{N}</math>  <math>\text{NH}_2</math></p> <p><math>\text{HO}</math>  <math>\text{OH}</math></p> </div> <div style="text-align: center;">  <p><math>\text{HO}_2\text{C}</math>  <math>\text{CO}_2\text{H}</math></p> </div> </div> |
| Polycarbodiimide  | PCD  | <p><b>-N=C=N- carbodiimide linkages in the backbone.</b></p> <p>IN Dodecane, 1,12-diisocyanato-, homopolymer (9Cl)</p> <p>CM 1</p> <p><math>\text{OCN}-(\text{CH}_2)_{12}-\text{NCO}</math></p>  |

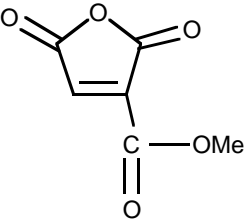


| Class Term       | Code | Type of Polymer Retrieved  |
|------------------|------|--|
| Polyimide        | PI   | <p><b>-CO-N-CO- imido linkages (or thio analogs) in the backbone.</b></p> <p>IN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 1,6-hexanediamine (9Cl)</p> <p>CM 1    CM 2</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"><math>H_2N-(CH_2)_6-NH_2</math></div>  </div> <p><b>EXCLUSIONS:</b><br/>Polymers formed by addition polymerization of unsaturated imides with resulting pendant imido groups.</p> |
| Polyionene       | PION | <p><b>Quaternary nitrogen atoms in the backbone.</b></p> <p>IN 1,16-Hexadecanediamine, N,N,N',N'-tetramethyl-, polymer with 1,3-dibromopropane (9Cl)</p> <p>CM 1    CM 2</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"><math>Me_2N-(CH_2)_{16}-NMe_2</math></div> <div><math>Br-CH_2-CH_2-CH_2-Br</math></div> </div>  |
| Polyisocyanurate | PIR  | <p><b>s-Triazinetrione ring in the backbone.</b></p> <p>IN Propane, 1,2-diisocyanato-, homopolymer (9Cl)</p> <p>CM 1</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 5px; text-align: center;">NCO<br/> </div> <div><math>Me-CH-CH_2-NCO</math></div> </div>  |
| Polyketone       | PK   | <p><b>-CO- ketone groups (or thio analogs) in the backbone.</b></p> <p>IN Benzoyl chloride, 4-phenoxy-, homopolymer (9Cl)</p> <p>CM 1</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"><math>PhO-</math></div>  </div> <p><b>EXCEPTIONS:</b><br/>Polymers formed by addition polymerization of unsaturated ketones with resulting pendant ketone groups.</p>   |
| Polynucleotide   | PNUC | <p><b>-O-P(O)(OH)-O- linkages (or thio analogs) between nucleosides in the backbone.</b></p> <p>IN 5'-Cytidylic acid, 2'-deoxy-, homopolymer (9Cl)</p> <p>CM 1</p> <div style="display: flex; align-items: center; justify-content: center;">  </div>  |

| Class Term      | Code   | Type of Polymer Retrieved  |
|-----------------|--------|--|
| Polyolefin      | POLF   | <p><b>Acyclic monomer with a C=C group. Monomer contains no atoms other than C or H.</b></p> <p>IN 1,3-Butadiene, 2-methyl-, polymer with 1-propene (9CI)</p> <p>CM 1                      CM 2</p>    |
| Polyoether      | OTHER  | <p><b>Polymers for which an algorithmic classification is uncertain.</b></p> <p>IN Methane, chlorodiazo-, polymer with diazomethane (9CI)</p> <p>CM 1                      CM 2</p>    |
| Polyoether Only | OTHERO | <p><b>Polymers for which the term Polyoether is posted and no other terms except Manual Component or Manual Registration are posted.</b></p> <p>IN Guanidine, cyano-, homopolymer (9CI)</p> <p>CM 1</p>   |
| Polyphenyl      | PPH    | <p><b>Direct linkages between phenylene rings in the backbone.</b></p> <p>IN Benzene, homopolymer (9CI)</p> <p>CM 1</p>   |
| Polyphosphazene | PPSZ   | <p><b>-P=N- phosphazene linkages in the backbone.</b></p> <p>IN 1,3,5,2,4,6-Triazatriphosphorine, 2,2,4,4,6,6-hexachloro- 2,2,4,4,6,6-hexahydro-, homopolymer (9CI)</p> <p>CM 1</p>   |
| Polyquinoxaline | PQ     | <p><b>Quinoxaline linkages in the backbone, with the backbone running through both rings.</b></p> <p>IN Ethanedione, 1,1'-(1,4-phenylene)bis[2-phenyl-, polymer with 4,4'-sulfonylbis[1,2-benzenediamine] (9CI)</p> <p>CM 1                      CM 2</p>  |



| Class Term      | Code  | Type of Polymer Retrieved   |
|-----------------|-------|---|
| Polystyrene     | PSTY  | <p><b>Monomer contains an acyclic C=C-Ph, where Ph is an isolated benzene ring with any substitution.</b></p> <p>IN Benzene, ethenyl-, homopolymer (9CI)</p> <p>CM 1</p> $\text{H}_2\text{C}=\text{CH}-\text{Ph}$   |
| Polysulfide     | PSF   | <p><b>-S<sub>n</sub>- linkages (n&gt;1) in the backbone.</b></p> <p>IN 1,2,3-Trithiolane, 4-ethyl-, homopolymer (9CI)</p> <p>CM 1</p>    |
| Polysulfonamide | PSA   | <p><b>-SO<sub>2</sub>-NH- sulfonamide linkages in the backbone.</b></p> <p>IN 1-Propanesulfonic acid, 3-(phenylamino)-, homopolymer (9CI)</p> <p>CM 1</p> $\text{HO}_3\text{S}-(\text{CH}_2)_3-\text{NH}-\text{Ph}$   |
| Polysulfone     | PSU   | <p><b>-SO<sub>2</sub>- sulfone groups in the backbone.</b></p> <p>IN 1-Hexene, polymer with sulfur dioxide (9CI)</p> <p>CM 1                      CM 2</p> $\text{O}=\text{S}=\text{O} \quad \text{H}_2\text{C}=\text{CH}-\text{Bu-n}$  |
| Polythioester   | PTES  | <p><b>Sulfur analogs of Polyesters containing -CS-S-, -CO-S-, or -CS-O- linkages.</b></p> <p>IN Propanoic acid, 3-mercapto-2,2-dimethyl-, homopolymer (9CI)</p> <p>CM 1</p>    |
| Polythioether   | PTETH | <p><b>Sulfur analogs of Polyethers containing -S- linkages.</b></p> <p>IN 1,10-Decanedithiol, polymer with 1,4-dibromobutane (9CI)</p> <p>CM 1                                      CM 2</p> $\text{HS}-(\text{CH}_2)_{10}-\text{SH} \quad \text{Br}-(\text{CH}_2)_4-\text{Br}$   |
| Polyurea        | PUA   | <p><b>Urea linkage -NH-CO-NH- (or thio analogs) in the backbone.</b></p> <p>IN 1,4-Butanediamine, polymer with 1,4-diisocyanatobutane (9CI)</p> <p>CM 1                                      CM 2</p> $\text{OCN}-(\text{CH}_2)_4-\text{NCO} \quad \text{H}_2\text{N}-(\text{CH}_2)_4-\text{NH}_2$  |
| Polyurethane    | PUR   | <p><b>-O-CO-NH- urethane linkages (or thio analogs) in the backbone.</b></p> <p>IN 1,6-Hexanediol, 2,2,3,3,4,4,5,5-octafluoro-, polymer with 1,6-diisocyanatohexane (9CI)</p> <p>CM 1                                      CM 2</p> $\text{OCN}-(\text{CH}_2)_6-\text{NCO} \quad \text{HO}-\text{CH}_2-(\text{CF}_2)_4-\text{CH}_2-\text{OH}$ |

| Class Term             | Code     | Type of Polymer Retrieved  |
|------------------------|----------|--|
| Polyvinyl              | PVIN     | <p><b>(a) Monomer has an acyclic C=C with a ring or hetero atom no more than two atoms away from the C=C.</b><br/>           IN Acetic acid ethenyl ester, homopolymer (9CI)<br/>           CM 1<br/> <math>\text{AcO}-\text{CH}=\text{CH}_2</math></p> <p><b>EXCLUSIONS:</b><br/> <b>The benzene ring of a Polystyrene.</b><br/> <b>The functional group of a Polyacrylic.</b></p> <p><b>(b) Monomer has an acyclic C=C that does not qualify for any other class.</b><br/>           IN 11,13-Octacosadienoic acid, homopolymer (9CI)<br/>           CM 1<br/> <math>\text{HO}_2\text{C}-(\text{CH}_2)_9-\text{CH}=\text{CH}-\text{CH}=\text{CH}-(\text{CH}_2)_{13}-\text{Me}</math></p> <p><b>(c) Maleic anhydride or maleimide or acyclic-substituted derivative thereof.</b><br/>           IN 3-Furancarboxylic acid, 2,5-dihydro-2,5-dioxo-, methyl ester, homopolymer (9CI)</p>  |
| (class name)<br>FORMED | (code) F | <p><b>Additional entry for polymers in which the linkage described by the class term is the result of polymerization.</b></p> <p><b>EXCLUSIONS:</b></p> <p><b>FORMED is not indexed for:</b></p> <ul style="list-style-type: none"> <li>- Resin terms - Amino Resin, Epoxy Resin, Phenolic Resin</li> <li>- Addition polymer terms - Chloropolymer, Fluoropolymer, Polyacetylene, Polyacrylic, Polyolefin, Polystyrene, Polyvinyl</li> <li>- Manual Component, Manual Registration, Polyother, Polyother Only</li> <li>- Double Strand and Polynucleotide</li> </ul>   |