

## OECD polymer of low concern (PLC) criteria and additional customer related criteria

OECD = Organisation for Economic Co-operation and Development  
consider fluoropolymers as being of low concern for environmental and human health.

| Material                                                                                 | Component                  | Feature                                                           |
|------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------|
| <b>Polymers currently in use especially for sealing, coating applications</b>            |                            |                                                                   |
| PTFE                                                                                     | Sealing, Coating, Inlining |                                                                   |
| TFM-PTFE                                                                                 | Sealing, Coating, Inlining |                                                                   |
| PFA                                                                                      | Sealing, Coating, Inlining |                                                                   |
| FEP                                                                                      | Sealing, Coating, Inlining |                                                                   |
| ETFE                                                                                     | Sealing, Coating, Inlining |                                                                   |
| FKM                                                                                      | Sealing, O Rings           |                                                                   |
| FFKM                                                                                     | Sealing, O Rings           |                                                                   |
| <b>Alternative materials especially for sealing and coating applications we examined</b> |                            |                                                                   |
| PE                                                                                       | Inlining, Coating          |                                                                   |
| PS                                                                                       | Inlining, Coating          |                                                                   |
| PA 66                                                                                    | friction bearings,         |                                                                   |
| NBR                                                                                      | Sealing, O Ring            |                                                                   |
| UHMW-PE (ultra-high molecular weight polyethylene)                                       | coating, film              | <a href="https://www.k-zeitung.de/">https://www.k-zeitung.de/</a> |
| ceramic                                                                                  | Bearing, mechanical seal   |                                                                   |

### Symbols



### Meaning

Accept

Not fulfilled

Accept with limitations

Nearly not fulfilled

### Legend

Water/lipid solubility, octanol water partition

Particle size

Polymer stability

Thermal stability

Abiotic stability

Biotic stability

Water solubility = extent to which a compound will dissolve in inhalation are associated with adverse health effects. Polymer broken into smaller particles is critical. Molecules with Mn < 1000 are stable at extreme temperature during disposal. Thermal stability tests are not. Abiotic degradation may involve sunlight, water or oxygen. Biotic degradation by microorganisms under oxygenated (aerobic) or anoxic (anaerobic) conditions.

| Water/lipid<br>solubility, octanol<br>water partition | Particle size | Polymer stability | Thermal stability |
|-------------------------------------------------------|---------------|-------------------|-------------------|
|-------------------------------------------------------|---------------|-------------------|-------------------|



in water; negligible water solubility < 1x10E-6 mg/L = 1 ppt  
 mer particles should be > 5 µm  
 0 Da are capable of crossing cell membranes  
 ng may involve TGA  
 cygen.  
 anaerobic) conditions

Abiotic stability

Biotic stability

electrical  
conductivity

Wear resistance

Sliding properties



flexibilty

