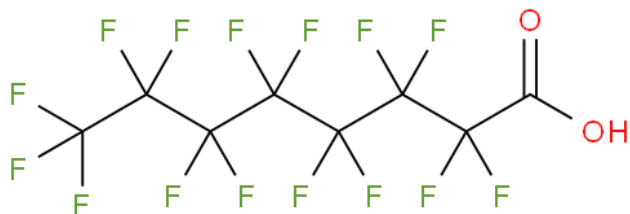


TURA Science Advisory Board
Example Structures from each OECD Subcategory

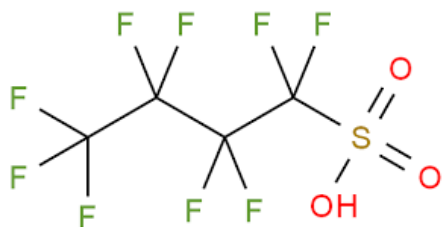
100: Perfluoroalkyl Carbonyl Compounds

Example: Perfluorooctanoic Acid (PFOA) CAS: 335-95-5



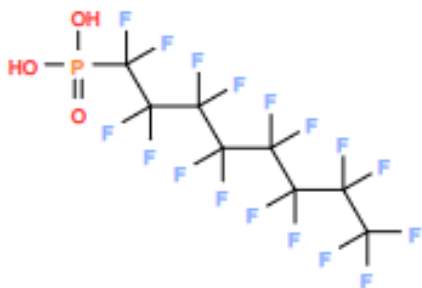
200: Perfluoroalkane Sulfonyl Compounds

Example: Perfluorobutanesulfonic Acid (PFBS) CAS: 375-73-5



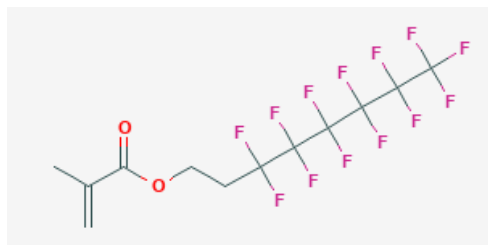
300: Perfluoroalkyl Phosphate Compounds

Example: Perfluoroalkyl Phosphonic Acid (PFPA) CAS: 52299-24-8



400: Fluorotelomer-Related Compounds

402.06 Example: 2-(Perfluorohexyl)ethyl methacrylate CAS: 2144-53-8

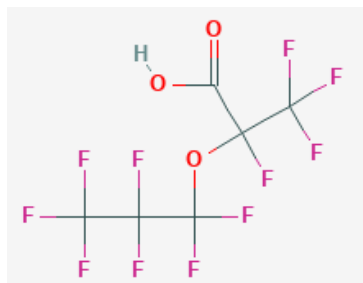


500: Per- and Polyfluoroalkyl Ether-Based Compounds

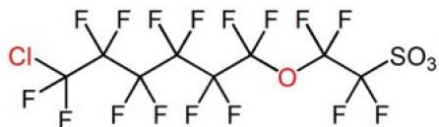
501.02: Propane, 1-(1-(difluoro(1,2,2,2-tetrafluoroethoxy)methyl)-1,2,2,2-tetrafluoroethoxy)-1,1,2,2,3,3,3-heptafluoro- CAS 3330-14-1



502.01: 2,3,3,3-Tetrafluoro-2-(heptafluoropropoxy)propanoic acid (GenX); CAS 13252-13-6



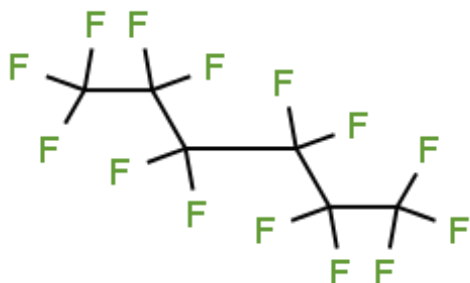
503.01: F-53b Ethanesulfonic acid, 2-[(6-chloro-1,1,2,2,3,3,4,4,5,5,6,6-dodecafluorohexyl)oxy]-1,1,2,2-tetrafluoro-, potassium salt (1:1) CAS 73606-19-6



600: Perfluoroalkanes and Aromatics (Fully fluorinated alkanes, cyclics and aromatics)

604 Example: Hexane, 1,1,1,2,2,3,3,4,4,5,5,6,6,6-tetradecafluoro (Tetradecafluorohexane)

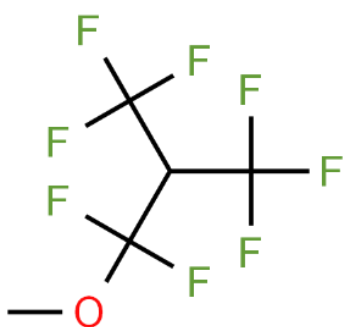
CAS No: 355-42-0 (liquid)



Note: “There are five perfluoroalkane gases: tetrafluoromethane (bp -128°C), hexafluoroethane (bp -78.2°C), octafluoropropane (bp -36.5°C), perfluoro-n-butane (bp -2.2°C) and perfluoro-iso-butane (bp -1°C). Nearly all other fluoroalkanes are liquids; the most notable exception is perfluorocyclohexane, which sublimates at 51° ” <https://en.wikipedia.org/wiki/Fluorocarbon>

700: Other PFAA precursors or related compounds-semifluorinated

702.1 Hydrofluoroethers (HFEs) and derivatives; Propane, 1,1,1,3,3-pentafluoro-3-methoxy-2-(trifluoromethyl)-; CAS No: 382-26-3

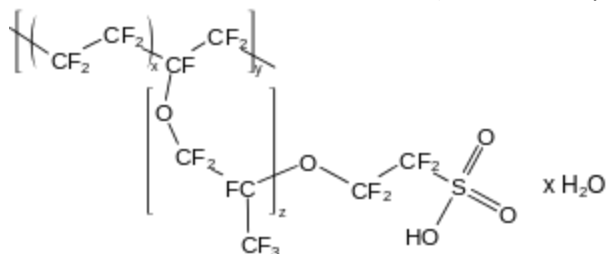


800: Fluoropolymers

801: Polytetrafluoroethylene (PTFE, Teflon); CAS 9002-84-0 (*not listed as precursor to PFAAs*)



801.2: Nafion Functionalized PTFE; Ethanesulfonic acid, 2-[1-[difluoro[(1,2,2-trifluoroethyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoroethene; CAS 31175-20-9 (*not listed as precursor to PFAAs*)



“As a typical perfluorosulfonic acid (PFSA) membrane, Nafion consists of a polytetrafluoroethylene (PTFE) backbone with perfluoroalkylether pendant chains terminating in sulfonic acid groups. Nafion has been widely employed in fuel cells because of its high proton conductivity, good chemical stability and high mechanical strength” (Feng 2015)

802: polyvinylidene fluoride (PVDF); Ethene, 1,1,2,2-tetrafluoro-, polymer with 1,1-difluoroethene CAS 25684-76-8 (*listed as precursor to PFAAs*)



806: Ethylene tetrafluoroethylene (ETFE); Example: Ethene, 1,1,2,2-tetrafluoro-, polymer with ethene; CAS 25038-71-5 (*listed as precursor to PFAAs*)

