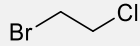
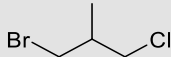
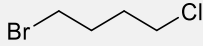
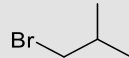

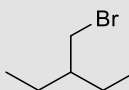
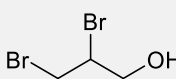
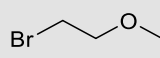
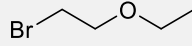
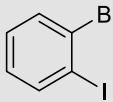
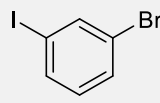
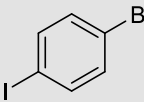
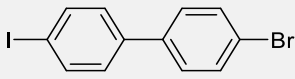
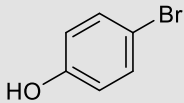
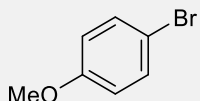
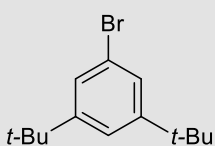


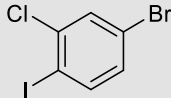
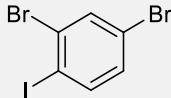
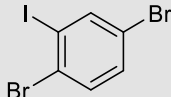
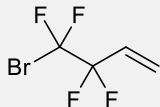


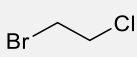
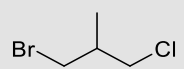
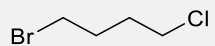
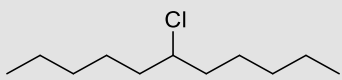
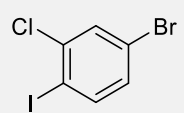
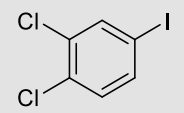
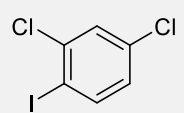
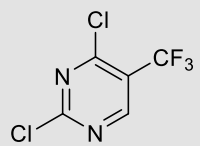
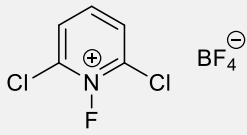
Fine Chemicals Product List 2020

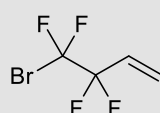
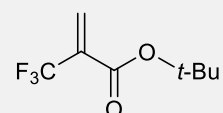
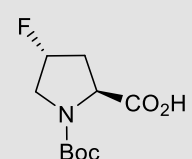
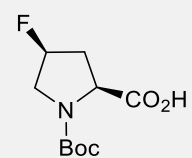
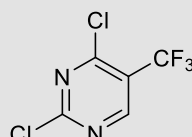




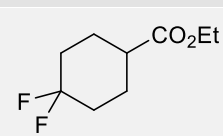
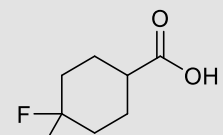


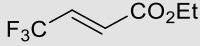
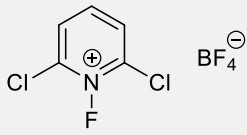
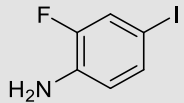
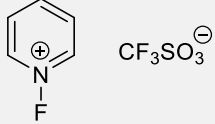
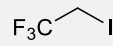
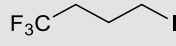
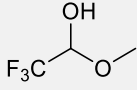
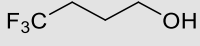
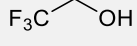
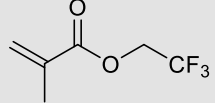

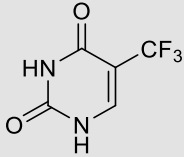
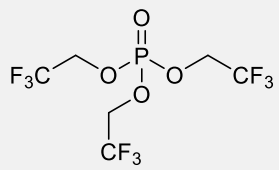
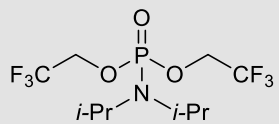
TOSOH CORPORATION


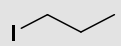

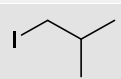
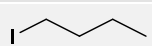
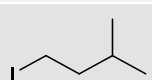
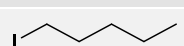
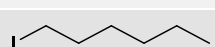
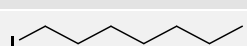
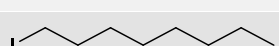
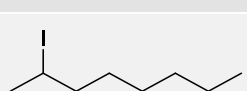
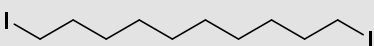
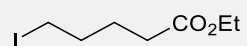
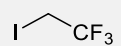
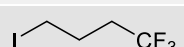
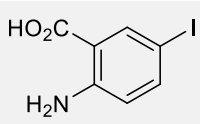
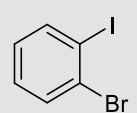
| Brominated products | | |
|---|--|-------------|
| Product name | Chemical structure | CAS number |
| 1-Bromo-2-chloroethane |  | 107-04-0 |
| 1-Bromo-3-chloro-2-methylpropane |  | 6974-77-2 |
| 1-Bromo-4-chlorobutane |  | 6940-78-9 |
| <i>iso</i> -Butyl bromide |  | 78-77-3 |
| <i>sec</i> -Butyl bromide |  | 78-76-2 |
| 3-Bromomethylpentane |  | 3814-34-4 |
| 2,3-Dibromo-1-propanol |  | 96-13-9 |
| 1-Bromo-2-methoxyethane |  | 6482-24-2 |
| 1-Bromo-2-ethoxyethane |  | 592-55-2 |
| 1-Bromo-2-iodobenzene |  | 583-55-1 |
| 1-Bromo-3-iodobenzene |  | 591-18-4 |
| 1-Bromo-4-iodobenzene |  | 589-87-7 |
| 4-Bromo-4'-iodobiphenyl |  | 105946-82-5 |
| 4-Bromophenol |  | 106-41-2 |
| 1-Bromo-4-methoxybenzene |  | 104-92-7 |
| 1-Bromo-3,5-di- <i>tert</i> -butylbenzene |  | 22385-77-9 |

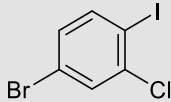
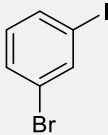
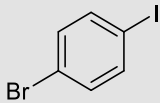
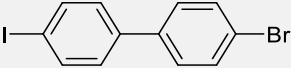
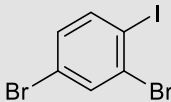
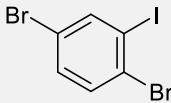
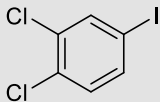
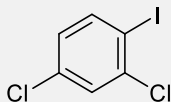
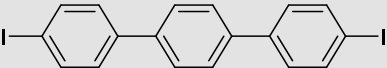
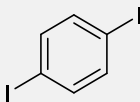
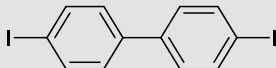
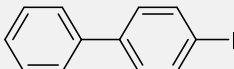
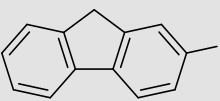
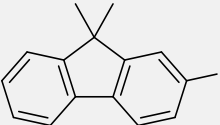
| Brominated products | | |
|--------------------------------------|--|------------|
| Product name | Chemical structure | CAS number |
| 1-Bromo-3-chloro-4-iodobenzene |  | 31928-47-9 |
| 1,3-Dibromo-4-iodobenzene |  | 19393-94-3 |
| 1,4-Dibromo-2-iodobenzene |  | 89284-52-6 |
| 4-Bromo-3,3,4,4-tetrafluoro-1-butene |  | 18599-22-9 |

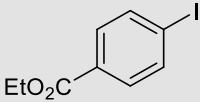
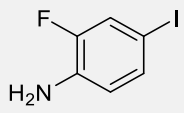
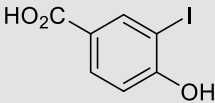
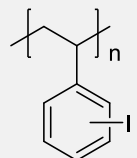
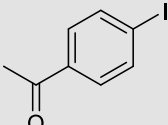
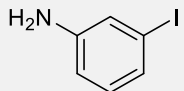
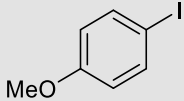
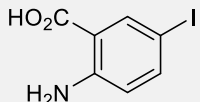
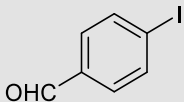
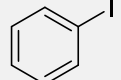
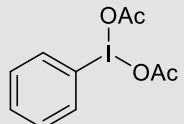
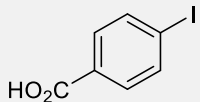
| Chlorinated products | | |
|---|--|-------------|
| Product name | Chemical structure | CAS number |
| Chlorodiiodomethane | CHI_2Cl | 593-71-5 |
| 1-Bromo-2-chloroethane |  | 107-04-0 |
| 1-Bromo-3-chloro-2-methylpropane |  | 6974-77-2 |
| 1-Bromo-4-chlorobutane |  | 6940-78-9 |
| 6-Chloroundecane |  | 20351-26-2 |
| 1-Bromo-3-chloro-4-iodobenzene |  | 31928-47-9 |
| 1,2-Dichloro-4-iodobenzene |  | 20555-91-3 |
| 1,3-Dichloro-4-iodobenzene |  | 3032-81-3 |
| 2,4-Dichloro-5-trifluoromethylpyrimidine |  | 3932-97-6 |
| 2,6-Dichloro-N-fluoropyridinium tetrafluoroborate (FP-B800) |  | 140623-89-8 |

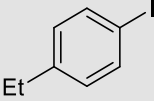
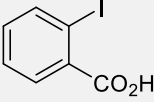
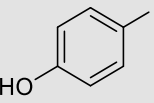
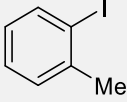
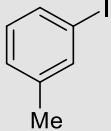
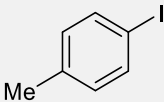
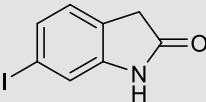
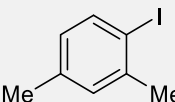
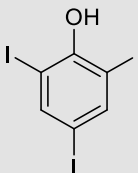
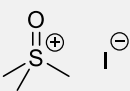
| Fluorinated products | | |
|--|--|-------------|
| Product name | Chemical structure | CAS number |
| 4-Bromo-3,3,4,4-tetrafluoro-1-butene |  | 18599-22-9 |
| <i>tert</i> -Butyl- <i>a</i> -(trifluoromethyl)acrylate |  | 105935-24-8 |
| <i>N</i> - <i>tert</i> -Butoxycarbonyl-(2 <i>S</i> ,4 <i>R</i>)-4-fluoroproline |  | 203866-14-2 |
| <i>N</i> - <i>tert</i> -Butoxycarbonyl-(2 <i>S</i> ,4 <i>S</i>)-4-fluoroproline |  | 203866-13-1 |
| 2,4-Dichloro-5-trifluoromethylpyrimidine |  | 3932-97-6 |
| 1,4-Diiodoperfluorobutane |  | 375-50-8 |
| 1,4-Divinylperfluorobutane |  | 678-65-9 |
| 1,6-Diiodoperfluorohexane |  | 1800-91-5 |
| 1,6-Divinylperfluorohexane |  | 375-80-4 |
| Ethyl 4,4-difluorohexanecarboxylate |  | 178312-47-5 |
| 4,4-Difluorocyclohexanecarboxylic acid |  | 122665-97-8 |

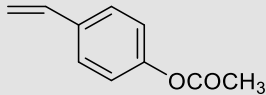
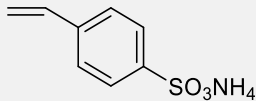
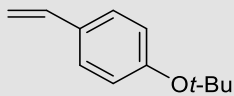
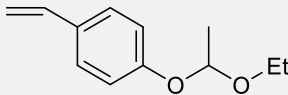
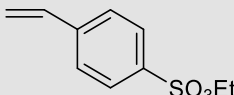
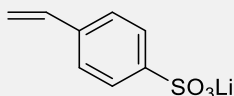
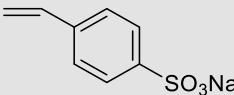
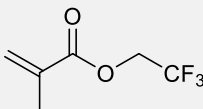
| Fluorinated products | | |
|---|--|--------------|
| Product name | Chemical structure | CAS number |
| Ethyl 4,4,4-trifluorocrotonate |  | 25597-16-4 |
| 2,6-Dichloro-N-fluoropyridinium tetrafluoroborate (FP-B800) |  | 140623-89-8 |
| 2-Fluoro-4-iodoaniline |  | 29632-74-4 |
| N-Fluoropyridinium triflate |  | 107263-95-6 |
| Trifluoroiodomethane | CF_3I | 2314-97-8 |
| 2-Iodo-1,1,1-trifluoroethane |  | 353-83-3 |
| 4-Iodo-1,1,1-trifluorobutane |  | 461-17-6 |
| Trifluoroacetaldehyde methyl hemiacetal |  | 431-46-9 |
| 4,4,4-Trifluoro-1-butanol |  | 461-18-7 |
| 2,2,2-Trifluoroethanol |  | 75-89-8 |
| 2,2,2-Trifluoroethyl methacrylate |  | 352-87-4 |
| (Trifluoromethyl)trimethylsilane |  | 81290-20-2 |
| 5-(Trifluoromethyl)uracil |  | 54-20-6 |
| Tris(2,2,2-trifluoroethyl)phosphate |  | 358-63-4 |
| Bis(2,2,2-trifluoroethyl) diisopropylphosphoramidate |  | 1461621-96-4 |

| Iodinated products | | |
|------------------------------|--|------------|
| Product name | Chemical structure | CAS number |
| Iodomethane | CH_3I | 74-88-4 |
| Iodoethane |  | 75-03-6 |
| 1-Iodopropane |  | 107-08-4 |
| 2-Iodopropane |  | 75-30-9 |
| 1-Iodo-2-methylpropane |  | 513-38-2 |
| 1-Iodobutane |  | 542-69-8 |
| 1-Iodo-3-methylbutane |  | 541-28-6 |
| 1-Iodopentane |  | 628-17-1 |
| 1-Iodohexane |  | 638-45-9 |
| 1-Iodoheptane |  | 4282-40-0 |
| 1-Iodooctane |  | 629-27-6 |
| 2-Iodooctane |  | 557-36-8 |
| Diiodomethane | CH_2I_2 | 75-11-6 |
| Chlorodiiodomethane | CHI_2Cl | 593-71-5 |
| 1,10-Diiododecane |  | 16355-92-3 |
| Ethyl 5-Iodopentanoate |  | 41302-32-3 |
| Trifluoroiodomethane | CF_3I | 2314-97-8 |
| 2-Iodo-1,1,1-trifluoroethane |  | 353-83-3 |
| 4-Iodo-1,1,1-trifluorobutane |  | 461-17-6 |
| 2-Amino-5-iodobenzoic acid |  | 5326-47-6 |
| 1-Bromo-2-iodobenzene |  | 583-55-1 |

| Iodinated products | | |
|-----------------------------------|--|-------------|
| Product name | Chemical structure | CAS number |
| 1-Bromo-3-chloro-4-iodobenzene |  | 31928-47-9 |
| 1-Bromo-3-iodobenzene |  | 591-18-4 |
| 1-Bromo-4-iodobenzene |  | 589-87-7 |
| 4-Bromo-4'-iodobiphenyl |  | 105946-82-5 |
| 1,3-Dibromo-4-iodobenzene |  | 19393-94-3 |
| 1,4-Dibromo-2-iodobenzene |  | 89284-52-6 |
| 1,2-Dichloro-4-iodobenzene |  | 20555-91-3 |
| 1,3-Dichloro-4-iodobenzene |  | 3032-81-3 |
| 4,4''-Diiodo- <i>p</i> -terphenyl |  | 19053-14-6 |
| 1,4-Diiodobenzene |  | 624-38-4 |
| 4,4'-Diiodobiphenyl |  | 3001-15-8 |
| 4-Iodobiphenyl |  | 1591-31-7 |
| 2-Iodofluorene |  | 2523-42-4 |
| 2-Iodofluorene |  | 2523-42-4 |

| Iodinated products | | |
|------------------------------|--|------------|
| Product name | Chemical structure | CAS number |
| Ethyl 4-iodobenzoate |  | 51934-41-9 |
| 2-Fluoro-4-iodoaniline |  | 29632-74-4 |
| 4-Hydroxy-3-iodobenzoic acid |  | 37470-46-5 |
| Iodinated polystyrene |  | N/A |
| 4'-Iodoacetophenone |  | 13329-40-3 |
| 3-Iodoaniline |  | 626-01-7 |
| 4-Iodoanisole |  | 696-62-8 |
| 5-Iodoanthranilic acid |  | 5326-47-6 |
| 4-Iodobenzaldehyde |  | 15164-44-0 |
| Iodobenzene |  | 591-50-4 |
| Iodobenzene diacetate |  | 3240-34-4 |
| 4-Iodobenzoic acid |  | 619-58-9 |

| Iodinated products | | |
|-----------------------------|--|-------------|
| Product name | Chemical structure | CAS number |
| 4-Iodoethylbenzene |  | 25309-64-2 |
| 2-Iodobenzoic acid |  | 88-67-5 |
| 4-Iodophenol |  | 540-38-5 |
| 2-Iodotoluene |  | 615-37-2 |
| 3-Iodotoluene |  | 625-95-6 |
| 4-Iodotoluene |  | 624-31-7 |
| 6-Iodo-2-oxindole |  | 919103-45-0 |
| 4-Iodo- <i>m</i> -xylene |  | 4214-28-2 |
| 2,4,6-Triiodophenol |  | 609-23-4 |
| Trimethylsulfoxonium iodide |  | 1774-47-6 |

| Unique monomers | | |
|---|--|-------------|
| Product name | Chemical structure | CAS number |
| <i>p</i> -Acetoxystyrene |  | 2628-16-2 |
| Ammonium <i>p</i> -styrenesulfonate (SPINOMAR®AmSS) |  | 19922-72-6 |
| <i>p</i> - <i>tert</i> -Butoxystyrene |  | 95418-58-9 |
| <i>p</i> -(1-Ethoxyethoxy) styrene |  | 157057-20-0 |
| <i>p</i> -Ethylstyrenesulfonate |  | 16736-98-4 |
| Lithium <i>p</i> -styrenesulfonate (SPINOMAR®LiSS) |  | 4551-88-6 |
| Sodium <i>p</i> -styrenesulfonate (SPINOMAR®NaSS) |  | 2695-37-6 |
| 2,2,2-Trifluoroethyl methacrylate |  | 352-87-4 |



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