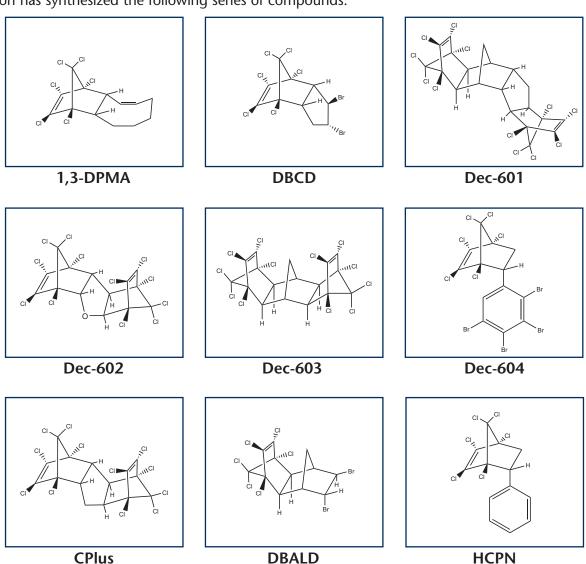
December 20, 2012

NEW HALOGENATED FLAME RETARDANTS

EFRs (Experimental Flame Retardants)

Halogenated flame retardants are most often associated with high profile brominated compounds such as polybrominated diphenyl ethers (PBDEs). However, the production, use, and fate of chlorinated and mixed chlorinated/brominated flame retardants has started to garner more attention recently due to reports of their presence in various environmental samples. For instance, it is believed that a family of flame retardants arising from Diels-Alder reactions of hexachlorocyclopentadiene has been in use for many years (e.g. Dechlorane Plus, Dec-604, etc.) albeit, in some cases, at an experimental level. In response to this, Wellington has synthesized the following series of compounds:



Catalogue Number	Product (toluene)	Qty	Conc
1,3-DPMA	1,3-Dechlorane Plus® Mono Adduct	1.2 ml	50 μg/ml
DBCD	Dibromochlordene	1.2 ml	50 μg/ml
Dec-601	Dechlorane 601	1.2 ml	50 μg/ml
Dec-602	Dechlorane 602	1.2 ml	50 μg/ml
Dec-603	Dechlorane 603	1.2 ml	50 μg/ml
Dec-604	Dechlorane 604	1.2 ml	50 μg/ml
CPlus	Chlordene Plus	1.2 ml	50 μg/ml
DBALD	Dibromoaldrin	1.2 ml	50 μg/ml
HCPN	Hexachloro(phenyl)norbornene	1.2 ml	50 μg/ml

Dechlorane Plus® is a registered trademark of Occidental Chemical Corporation.

IUPAC NAMES:

1,3-DPMA = rac-(1R,2R,9S,10S)-1,10,11,12,13,13-hexachlorotricyclo[8.2.1.0^{2,9}]-trideca-3,11-diene

DBCD = rac-(1R,2R,3aS,4S,7R,7aR)-1,2-dibromo-4,5,6,7,8,8-hexachloro-2,3,3a,4,7,7a-hexahydro-1*H*-4,7-methanoindene

Dec-601 = rac-(1R,2S,3S,4S,7R,8R,10S,11S,12S,13S,16R,17R)-4,5,6,7,13,14,15,16,19,19,20,20-

dodecachloroheptacyclo[9.6.1.1^{4,7}.1^{13,16}.0^{2,10}.0^{3,8}.0^{12,17}]icosa-5,14-diene

Dec-602 = 1,2,3,4,6,7,8,9,10,10,11,11-dodecachloro-1,4,4a,5a,6,9,9a,9b-octahydro-1,4:6,9-dimethanodibenzofuran

Dec-603 = 1,2,3,4,5,6,7,8,12,12,13,13-dodecachloro-1,4,4a,5,8,8a,9,9a,10,10a-decahydro-1,4:5,8:9,10-trimethanoanthracene

Dec-604 = endo-5-(2,3,4,5-tetrabromophenyl)-1,2,3,4,7,7-hexachloro-bicyclo[2.2.1]hept-2-ene

CPlus = rac-(1R,4S,4aR,4bR,5S,8R,8aR,9aR)-1,2,3,4,5,6,7,8,10,10,11,11-dodecachloro-4,4a,4b,5,8,8a,9,9a-octahydro-1H-

1,4:5,8-dimethanofluorene

DBALD = rac-(1R,2S,3S,4S,4S,5R,8S,8R)-2,3-dibromo-5,6,7,8,9,9-hexachloro-1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-

dimethanonaphthalene

HCPN = endo-5-phenyl-1,2,3,4,7,7-hexachloro-bicyclo[2.2.1]hept-2-ene

Please contact your local distributor or info@well-labs.com for pricing and delivery.

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