HALO COLUMNS FOR SMALL MOLECULE SEPARATIONS

HALO Small Molecule Columns: Specifications

Bonded Phase	USP Designation	Particle Size(s) (µm)	Carbon Load (%)	Surface Area (m^2/g)	Low pH/T Limit	High pH/T Limit	Endcapped
C18	L1	2 2.7 5	7.2 7.7 6.4	120 135 90	2/60 °C	9/40 °C	Yes
AQ-C18	L1	2 2.7 5	6.5 6.7 5.6	120 135 90	2/60 °C	9/40 °C	Yes
C8	L7	2 2.7 5	4.8 5.4 3.7	120 135 90	2/60 °C	9/40 °C	Yes
Phenyl-Hexyl	L11	2 2.7 5	6.3 7.1 5.2	120 135 90	2/60 °C	9/40 °C	Yes
Biphenyl	L11	2.7	7.0	135	2/60 °C	9/40 °C	Yes
PFP	L43	2 2.7 5	5.3 5.5 3.9	120 135 90	2/60 °C	8/40 °C	Yes
ES-CN	L10	2 2.7 5	3.4 3.5 2.5	120 135 90	1/80 °C	8/40 °C	Yes
RP-Amide	L60	2 2.7 5	7.3 8.2 5.1	120 135 90	2/60 °C	9/40 °C	Yes
HILIC	L3	2 2.7 5	Unbonded	120 135 90	1/60 °C	8/40 °C	N/A
Penta-HILIC	L95	2 2.7 5	2.8 3.2 2.1	120 135 90	2/60 °C	9/40 °C	No

HALO Phases: Features and Benefits, Target Analytes and Best Applications

Bonded Phase	Features and Benefits	Target Analytes	Best Applications
C18 (dimethyloctadecylsilane)	• Excellent performance for a broad range of analyte polarities	Diverse analytes ranging from polar to non-polar	• Pharmaceutical applications • Environmental applications • Cannabinoids • General purpose
AQ-C18 (polar modified)	• Resistant to dewetting, making it 100% aqueous mobile phase compatible • Enhanced retention for polar molecules	Acids, bases, polar analytes	• Pesticides • Nucleobases • Neurotransmitters • Polar acids
C8 (dimethyloctylsilane)	• Excellent performance for a broad range of analyte polarities	Diverse analytes ranging from polar to non-polar	• Pharmaceutical applications • Environmental applications • Higher hydrophobic compounds
Phenyl-Hexyl (dimethylphenyl-hexylsilane)	• Complementary selectivity to alkyl phases • Enhanced selectivity for stereo-isomers	Electron-poor molecules, aromatic or unsaturated compounds (ketones, nitriles, alkenes)	• Benzodiazepines • Aromatics • Drugs of abuse
Biphenyl (dimethylbiphenyl)	• Complementary selectivity to alkyl phases • Enhanced selectivity for aromatic compounds	Electron-poor molecules, aromatic or unsaturated compounds (ketones, nitriles, alkenes)	• Aromatics • Heterocycles • Drugs of abuse • Analgesics • Highly aqueous conditions
PFP (pentafluorophenylpropylsilane)	• Complementary selectivity to alkyl phases • Enhanced selectivity for stereo-isomers • Can be used in RPLC and HILIC modes	Electron-rich compounds, aromatics, unsaturated compounds with double and/or triple bonds	• Steroids • Isomeric compounds • Substituted aromatics
ES-CN (diisopropylcyanopropylsilane)	• Complementary selectivity to alkyl phases • More retention for polar analytes and much less retention for non-polar analytes	Polar and very polar bases, acids and neutrals	• Explosives • Aromatics • Polar compounds
RP-Amide (C16 amide)	• Complementary selectivity to alkyl phases • Enhanced stability for minimum bleed and long life	Alcohols, acids, phenols and catechins	• Phenols • Alcohols • Catechins
HILIC (bare silica)	• Can be used in HILIC and normal-phase modes	Polar and very polar bases, acids and neutrals, especially those with log P < 0.5	• Polar compounds
Penta-HILIC (proprietary penta-hydroxy ligand)	• Ideal for separation of highly polar compounds that are poorly retained in RPLC	Polar analytes with log P $\lesssim$ 0	• Polar basic compounds