

# GC Column Selection Charts for Food and Environmental Analyses



Listed below are recommended Zebron columns for environmental and EPA methods. Other columns may also be used for these analyses — please contact Phenomenex for your specific GC column needs.



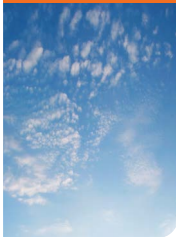
| Method # | Description  | Primary Column                                       | Confirmation Column                    |
|----------|--|--|--|
| 501.3    | Trihalomethanes by GC-MS with Selected Ion Monitoring (SIM)  | ZB-624, ZB-624 <sup>PLUS</sup> <sup>™</sup>          |  |
| 502.2    | Volatile Halogenated Organics by Purge & Trap GC/PID/ELCD  | ZB-624, ZB-624 <sup>PLUS</sup>                       |  |
| 503.1    | Volatile Aromatics and Unsaturated Organics by Purge & Trap GC   | ZB-624, ZB-624 <sup>PLUS</sup>                       |  |
| 504.1    | 1,2-Dibromoethane (EDB), 1,2-Dibromo-3-chloropropane (DBCP), and 1,2,3-Trichloropropane (123TCP) by GC | ZB-CLPesticides-1<br>ZB-MultiResidue <sup>™</sup> -1 | ZB-CLPesticides-2<br>ZB-MultiResidue-2 |
| 505      | Organohalide Pesticides & Aroclors by GC-ECD   | ZB-CLPesticides-1<br>ZB-MultiResidue-1               | ZB-CLPesticides-2<br>ZB-MultiResidue-2 |
| 507      | Nitrogen & Phosphorus Containing Pesticides by GC/NPD  | ZB-MultiResidue-1<br>ZB-CLPesticides-2               | ZB-MultiResidue-2<br>ZB-CLPesticides-2 |
| 508      | Chlorinated Pesticides by GC-ECD   | ZB-CLPesticides-1<br>ZB-MultiResidue-1               | ZB-CLPesticides-2<br>ZB-MultiResidue-2 |
| 509      | Ethylene Thiourea (ETU) by GC/NPD  | ZB-WAX <sup>PLUS</sup> <sup>™</sup>                  | ZB-1701                                |
| 513      | 2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin by GC/HRMS  | ZB-SemiVolatiles                                     |  |
| 515.3    | Chlorinated Acids by Liquid-Liquid Extraction, Derivatization and GC-ECD                               | ZB-XLB   | ZB-35                                  |
| 521      | Nitrosamines by Solid Phase Extraction (SPE) and GC-MS/MS with Large Volume Injection                  | ZB-SemiVolatiles                                     |  |
| 522      | 1,4-Dioxane by Solid Phase Extraction (SPE) and GC-MS with Selected Ion Monitoring (SIM)               | ZB-SemiVolatiles                                     |  |
| 523      | Triazine Pesticides and their Degradates by GC-MS  | ZB-50  |  |
| 524.3    | Purgeable Organic Compounds by GC-MS   | ZB-624, ZB-624 <sup>PLUS</sup>                       |  |
| 525.2    | Semi-volatile Organic Chemicals by Solid Phase Extraction (SPE) and GC-MS                              | ZB-SemiVolatiles                                     |  |
| 526      | Selected Semi-volatile Organic Compounds by Solid Phase Extraction (SPE) and GC-MS                     | ZB-SemiVolatiles                                     |  |
| 527      | Selected Pesticides and Flame Retardants by Solid Phase Extraction (SPE) and GC-MS                     | ZB-5 <sup>PLUS</sup> <sup>™</sup>                    |  |
| 528      | Phenols by Solid Phase Extraction (SPE) and GC-MS  | ZB-SemiVolatiles                                     | ZB-35                                  |
| 529      | Explosives and Related Compounds by Solid Phase Extraction (SPE) and GC-MS                             | ZB-5 <sup>PLUS</sup> <sup>™</sup>                    |  |
| 548      | Endothal by Aqueous Derivatization, Liquid-Solid Extraction, and GC-ECD                                | ZB-SemiVolatiles                                     | ZB-35                                  |
| 551.1    | Chlorinated Solvents & Disinfection Byproducts by Liquid-Liquid Extraction and GC-ECD                  | ZB-35  |  |
| 552.3    | Haloacetic Acids and Dalapon by Liquid-Liquid Extraction, Derivatization, and GC-ECD                   | ZB-CLPesticides-1<br>ZB-XLB                          | ZB-CLPesticides-2<br>ZB-35             |
| 556      | Carbonyl Compounds by Pentafluorobenzylhydroxylamine Derivatization and GC-ECD                         | ZB-SemiVolatiles                                     | ZB-1701                                |



| Method # | Description   | Primary Column   | Confirmation Column        |
|----------|---|--|----------------------------|
| 601      | Purgeable Halocarbons by Purge & Trap GC  | ZB-624, ZB-624 <sup>PLUS</sup>   |                            |
| 602      | Purgeable Aromatics by Purge & Trap GC  | ZB-624, ZB-624 <sup>PLUS</sup>   |                            |
| 603      | Acrolein & Acrylonitrile Purge & Trap GC  | ZB-624, ZB-624 <sup>PLUS</sup>   |                            |
| 604      | Phenols by GC-ECD   | ZB-SemiVolatiles   |                            |
| 606      | Phthalate Esters by GC-ECD  | ZB-5 <sup>PLUS</sup> <sup>™</sup>  |                            |
| 607      | Nitrosamines by GC/NPD  | ZB-SemiVolatiles   |                            |
| 608      | Organochlorine Pesticides and PCBs by GC-ECD  | ZB-MultiResidue-1  | ZB-MultiResidue-2          |
| 609      | Nitroaromatics & Isophorone by GC-FID and GC-ECD  | ZB-SemiVolatiles   |                            |
| 610      | Polynuclear Aromatic Hydrocarbons by GC-FID   | ZB-PAH-EU<br>ZB-PAH-CT   |                            |
| 611      | Haloethers by GC-ECD  | ZB-SemiVolatiles   | ZB-SemiVolatiles           |
| 612      | Chlorinated Hydrocarbons by GC-ECD  | ZB-SemiVolatiles   |                            |
| 613      | 2,3,7,8-Tetrachlorodibenzo-p-dioxin by GC-MS  | ZB-SemiVolatiles   |                            |
| 615      | Chlorinated Herbicides by GC-ECD  | ZB-CLPesticides-1<br>ZB-XLB  | ZB-CLPesticides-2<br>ZB-35 |
| 619      | Triazine Herbicides by GC-MS  | ZB-50  |                            |
| 622      | Organophosphorus Pesticides by GC-MS  | ZB-MultiResidue-1  |                            |
| 624      | Purgeable Volatiles by Purge & Trap GC-MS   | ZB-624   |                            |
| 625      | Base/Neutral and Acids by GC-MS   | ZB-SemiVolatiles   |                            |
| 1613     | Tetra- through Octa-Chlorinated Dioxins & Furans by Isotope Dilution HRGC/HRMS          | ZB-Dioxin  | ZB-SemiVolatiles           |
| 1614     | Polybrominated Diphenyl Esters (PBDEs) by HRGC/HRMS                                     | ZB-5HT Inferno <sup>™</sup><br>ZB-SemiVolatiles                                      |                            |
| 1618     | Organohalide Pesticides, Organophosphorus Pesticides, and Phenoxy-Acid Herbicides by GC | ZB-MultiResidue-1  | ZB-MultiResidue-2          |
| 1624     | Volatile Organic Compounds by Isotope Dilution GC-MS                                    | ZB-624, ZB-624 <sup>PLUS</sup>   |                            |
| 1625     | Semi-volatile Organic Compounds by Isotope Dilution GC-MS                               | ZB-SemiVolatiles   |                            |
| 1653     | Chlorinated Phenols by In-Situ Acetylation and GC-MS                                    | ZB-SemiVolatiles   |                            |
| 1657     | Organophosphorus Pesticides by GC/FPD   | ZB-MultiResidue-1  | ZB-MultiResidue-2          |
| 1658     | Phenoxy-Acid Herbicides by GC-ECD   | ZB-MultiResidue-1  | ZB-MultiResidue-2          |
| 1659     | Dazomet by GC/NPD   | ZB-MultiResidue-1  | ZB-MultiResidue-2          |
| 1666     | Pharmaceutical Volatile Organic Compounds by Purge & Trap GC or Isotope Dilution GC-MS  | ZB-SemiVolatiles (Direct Injection)<br>ZB-624 (Purge & Trap), ZB-624 <sup>PLUS</sup> |                            |
| 1668     | Polychlorinated Biphenyl (PCB) Congeners by HRGC/HRMS                                   | ZB-MultiResidue-1  | ZB-1                       |
| 1671     | Pharmaceutical Manufacturing Volatile Organic Compounds by GC-FID                       | ZB-1   |                            |
| 7850     | White Phosphorus (P4) by Solvent Extraction and GC/NPD                                  | ZB-1   |                            |

Listed below are recommended Zebron columns for environmental and EPA methods. Other columns may also be used for these analyses — please contact Phenomenex for your specific GC column needs.

| Solid Waste | Method #   | Description  | Primary Column                                       | Confirmation Column                         |
|-------------|--|--|--|---|
|             |  | 8010B  | Halogenated Volatile Organics by GC/ELCD             | ZB-624, ZB-624 <sup>PLUS</sup> <sup>™</sup> |
|             | 8015C  | Nonhalogenated Organics by GC  | ZB-5HT   |   |
|             | 8020A  | Aromatic Volatile Organics by GC/PID   | ZB-WAX,<br>ZB-WAX <sup>PLUS</sup> <sup>™</sup>       |   |
|             | 8021B  | Aromatic and Halogenated Volatiles by GC/PID or GC/ELCD  | ZB-624, ZB-624 <sup>PLUS</sup>                       | ZB-1 (thick phase)                          |
|             | 8030A  | Acrolein and Acrylonitrile by GC-FID   | ZB-624, ZB-624 <sup>PLUS</sup>                       |   |
|             | 8032A  | Acrylamide by GC-ECD   | ZB-5HT Inferno <sup>™</sup>                          |   |
|             | 8041   | Phenols by GC-ECD or GC-FID  | ZB-SemiVolatiles                                     |   |
|             | 8061A  | Phthalate Esters by GC-ECD   | ZB-SemiVolatiles                                     | ZB-1701                                     |
|             | 8081B  | Organochlorine Pesticides by GC-ECD  | ZB-MultiResidue <sup>™</sup> -1<br>ZB-CLPesticides-1 | ZB-MultiResidue-2<br>ZB-CLPesticides-2      |
|             | 8082A  | Polychlorinated Biphenyls (PCBs) by GC-ECD   | ZB-MultiResidue-1<br>ZB-CLPesticides-1               | ZB-MultiResidue-2<br>ZB-CLPesticides-2      |
|             | 8091   | Nitroaromatics and Cyclic Ketones by GC-ECD or GC/NPD  | ZB-SemiVolatiles                                     | ZB-1701                                     |
|             | 8095   | Explosives by GC-ECD   | ZB-50  |   |
|             | 8100   | Polynuclear Aromatic Hydrocarbons by GC-FID  | ZB-SemiVolatiles, ZB-35                              |   |
|             | 8121   | Chlorinated Hydrocarbons by GC-ECD   | ZB-MultiResidue-1                                    | ZB-MultiResidue-2                           |
|             | 8131   | Aniline and Selected Derivatives by GC/NPD   | ZB-SemiVolatiles                                     | ZB-1  |
|             | 8141B  | Organophosphorus Pesticides by GC/FPD or GC/NPD  | ZB-MultiResidue-1<br>ZB-CLPesticides-1               | ZB-MultiResidue-2<br>ZB-CLPesticides-2      |
|             | 8151A  | Chlorinated Herbicides by GC-ECD   | ZB-CLPesticides-1<br>ZB-XLB                          | ZB-CLPesticides-2<br>ZB-35                  |
|             | 8260B  | Volatile Organic Compounds by GC-MS  | ZB-624, ZB-624 <sup>PLUS</sup>                       |   |
|             | 8270D  | Semi-volatile Organic Compounds by GC-MS   | ZB-SemiVolatiles                                     |   |
|             | 8272   | Polynuclear Aromatic Hydrocarbons (PAHs) by SPME and GC-MS with Selected Ion Monitoring (SIM)    | ZB-SemiVolatiles,<br>ZB-35                           |   |
|             | 8280B  | Polychlorinated Dibenzo-P-Dioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) By HRGC/LRMS | ZB-SemiVolatiles                                     |   |
|             | 8290A  | Polychlorinated Dibenzo-P-Dioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) By HRGC/HRMS | ZB-SemiVolatiles                                     |   |
|             | 8410   | Semi-Volatile Organic Compounds by GC/FTIR   | ZB-SemiVolatiles                                     |   |
|             | 8430   | Bis(2-chloroethyl) Ether and Hydrolysis Products by Direct Aqueous Injection GC/FT-IR            | ZB-WAX <sup>PLUS</sup>                               |   |


| Air | Method #   | Description  | Primary Column   |
|-----|--|--|--|
|     |  | TO-1   | Volatile Organic Compounds by Thermal Adsorption and GC-MS |
|     | TO-2   | Volatile Organic Compounds by Carbon Molecular Sieve Adsorption and GC-MS                                    | ZB-1 <sup>PLUS</sup>                                       |
|     | TO-3   | Volatile Organic Compounds by Cryogenic Preconcentration Techniques and GC-FID /ECD                          | ZB-1 <sup>PLUS</sup>                                       |
|     | TO-4A  | Pesticides and Polychlorinated Biphenyls (PCBs) by High Volume Polyurethane Foam (PUF) Sampling and GC       | ZB-MultiResidue-1  |
|     | TO-7   | N-Nitrosodimethylamine by GC-MS  | ZB-WAX <sup>PLUS</sup>                                     |
|     | TO-9A  | Polychlorinated, Polybrominated, and Brominated/Chlorinated Dibenzo-p-Dioxins and Dibenzofurans by HRGC/HRMS | ZB-SemiVolatiles   |
|     | TO-10A   | Pesticides and Polychlorinated Biphenyls (PCBs) by Low Volume Polyurethane Foam (PUF) Sampling and GC        | ZB-MultiResidue-1  |
|     | TO-13A   | Polycyclic Aromatic Hydrocarbons (PAHs) by GC-MS   | ZB-SemiVolatiles   |
|     | TO-14A   | Volatile Organic Compounds by Specially Prepared Canisters and GC  | ZB-1 <sup>PLUS</sup>                                       |
|     | TO-15  | Volatile Organic Compounds by Specially Prepared Canisters and GC-MS   | ZB-1 <sup>PLUS</sup>                                       |


Listed below are recommended Zebron columns for food safety, food quality, and flavor/fragrance methods. Other columns may also be used for these analyses — please contact Phenomenex for your specific GC column needs.

| Food Safety  | Compound Class                         | Analysis   | Recommended Columns  |
|--|--|--|--|
|  | <b>Pesticides &amp; Antimicrobials</b> | Multi-Residue Pesticide Screening                    | ZB-MultiResidue™-1 and -2  |
|  |  | Organochlorine Pesticides in Water                   | ZB-MultiResidue-1 and -2   |
|  |  | Organochlorine Pesticides in Foods of Plant Origin   | ZB-MultiResidue-1 and -2   |
|  |  | Organophosphorus Pesticides in Foods of Plant Origin | ZB-MultiResidue-1 and -2   |
|  |  | Triazine Pesticides in Water                         | ZB-50  |
|  |  | Triazine Pesticides in Foods of Plant Origin         | ZB-50  |
|  |  | Chloramphenicol in Foods of Animal Origin            | ZB-1 <sup>PLUS</sup> ™   |
|  | <b>Environmental Contaminants</b>      | Polybrominated Diphenyl Ethers (PBDEs) in Food       | ZB-5MS <sup>PLUS</sup> ™, ZB-SemiVolatiles, ZB-35                      |
|  |  | Polychlorinated Biphenyls (PCBs) in Water            | ZB-MultiResidue-1, ZB-XLB-HT Inferno™                                  |
|  |  | Polychlorinated Dibenzo-dioxins (PCDDs) in Food      | ZB-5MS <sup>PLUS</sup> , ZB-SemiVolatiles                              |
|  |  | Polychlorinated Dibenzo-furans (PCDFs) in Food       | ZB-5MS <sup>PLUS</sup> , ZB-SemiVolatiles                              |
|  |  | Polycyclic Aromatic Hydrocarbons (PAHs) in Water     | ZB-PAH-EU, ZB-PAH-CT, ZB-5MS <sup>PLUS</sup> , ZB-SemiVolatiles, ZB-35 |
|  | <b>Food Contact Materials</b>          | Food Packaging Volatiles                             | ZB-624, ZB-624 <sup>PLUS</sup> ™                                       |
|  |  | Dioxins and Furans in Food                           | ZB-Dioxin  |
|  |  | Melamine in Food                                     | ZB-XLB-HT Inferno  |
|  |  | Cyanuric Acid in Food                                | ZB-XLB-HT Inferno  |
|  |  | Phthalates in Food                                   | ZB-5MS <sup>PLUS</sup>   |
|  |  | Residual Solvents in Food                            | ZB-624, ZB-624 <sup>PLUS</sup> , ZB-WAX <sup>PLUS</sup>                |
|  |  | Bisphenol A & F (BPA/BPF) in Food                    | ZB-5MS <sup>PLUS</sup>   |
|  | <b>Additives &amp; Preservatives</b>   | Parabens in Food                                     | ZB-5MS <sup>PLUS</sup>   |
|  |  | Chloropropanols (3-MCPD) in Food                     | ZB-5MS <sup>PLUS</sup>   |
|  |  | Flavor Additives (Borneol)                           | ZB-MultiResidue-1  |
|  |  | Phenolic Antioxidants (BHA & BHT) in Food            | ZB-50  |
|  |  | Tocopherols in Food                                  | ZB-5MS <sup>PLUS</sup>   |
|  | <b>Process Contaminants</b>            | Acrylamide in Foods                                  | ZB-5HT Inferno   |
|  |  | Acrylamide, Acrylonitrile, and Acrolein in Water     | ZB-624, ZB-624 <sup>PLUS</sup>   |
|  |  | Benzene in Food                                      | ZB-WAX <sup>PLUS</sup>   |
|  |  | Glycols in Food                                      | ZB-WAX <sup>PLUS</sup>   |
| <b>Hormones</b>  | Steroid Hormones in Food               | ZB-5MS <sup>PLUS</sup> , ZB-1 <sup>PLUS</sup>        |  |

Continues on next page.

Listed below are recommended Zebron columns for food safety, food quality, and flavor/fragrance methods. Other columns may also be used for these analyses — please contact Phenomenex for your specific GC column needs.

| Food Quality   | Compound Class                 | Analysis  | Recommended Columns            |
|--|--------------------------------|---|--------------------------------|
|  | <b>Fatty Acids &amp; FAMES</b> | Food Industry Fatty Acid Methyl Esters (FAMES)              | ZB-FAME                        |
|  |                                | Marine Oil Fatty Acid Methyl Esters (FAMES)                 | ZB-FAME                        |
|  |                                | Saw Palmetto Fatty Acid Methyl Esters (FAMES)               | ZB-FAME                        |
|  |                                | Free Fatty Acids  | ZB-FFAP                        |
|  |                                | Essential Fatty Acids (EFAs) Omega-3 and Omega-6            | ZB-FAME                        |
|  | <b>Triglycerides</b>           | Butter, Canola Oil, Olive Oil, and Peanut Oil Triglycerides | ZB-5HT Inferno™                |
|  | <b>Alcoholic Beverages</b>     | Cognac Compounds  | ZB-WAX <sub>PLUS</sub> ™       |
|  |                                | Distilled Liquor Screen                                     | ZB-FFAP                        |
|  |                                | Ethanol in Beer   | ZB-Bioethanol                  |
|  |                                | Sulfur in Beer  | ZB-1 <sub>PLUS</sub> ™         |
|  |                                | Whiskey Compounds   | ZB-WAX <sub>PLUS</sub>         |
|  |                                | Wine Compounds  | ZB-WAX, ZB-WAX <sub>PLUS</sub> |
|  | <b>Other Acids</b>             | Organic Acids   | ZB-FFAP                        |
|  |                                | Amino Acids   | ZB-50                          |
|  | <b>Sterols</b>                 | Sterols in Lard, Margarine, Peanut Butter, or Olive Oil     | ZB-5HT Inferno                 |
| <b>Sugars</b>  | Alditol Acetates               | ZB-5MS <sub>PLUS</sub> ™                                    |                                |
|  | Trimethylsilyl (TMS) Sugars    | ZB-MultiResidue™-1  |                                |

| Flavors & Fragrances   | Compound Class        | Analysis   | Recommended Columns    |
|--|-----------------------|--|------------------------|
|  | <b>Essential Oils</b> | Cold-Pressed Orange Oil                                | ZB-WAX <sub>PLUS</sub> |
|  |                       | Ginkgo Biloba Oil, Lavender Oil, and Ylang Ylang Oil   | ZB-1 <sub>PLUS</sub>   |
|  |                       | Peppermint Oil   | ZB-WAX                 |
|  |                       | Rose Oil   | ZB-XLB                 |
|  |                       | Spearmint Oil  | ZB-5MS <sub>PLUS</sub> |
|  | <b>Flavors</b>        | Flavors Screening                                      | ZB-FFAP                |
| Flavor Allergens   |                       | ZB-5MS <sub>PLUS</sub>                                 |                        |
| Flavor Volatiles   |                       | ZB-1 <sub>PLUS</sub> , ZB-WAX <sub>PLUS</sub> , ZB-624 |                        |
| Alcoholic Beverage Profile   |                       | ZB-FFAP  |                        |
| Honey Profile  |                       | ZB-WAX <sub>PLUS</sub>                                 |                        |
| <b>Fragrances</b>  | Fragrance Screening   | ZB-WAX <sub>PLUS</sub> , ZB-624                        |                        |
|  | Fragrance Allergens   | ZB-1 <sub>PLUS</sub>                                   |                        |



## Essentials

A collection of tried-and-true selectivities, Essentials phases are the smart starting point for the GC method developer.

|        |          |
|--------|----------|
| ZB-1   | ZB-624   |
| ZB-5   | ZB-1701  |
| ZB-5ms | ZB-1701P |
| ZB-35  | ZB-WAX   |
| ZB-50  | ZB-FFAP  |
|        | ZB-XLB   |



## PLUS

Plus phases offer a suite of upgrades compared to their Essentials counterparts – from exceptional inertness to enhanced aqueous stability.

|             |
|-------------|
| ZB-1PLUS™   |
| ZB-5PLUS™   |
| ZB-5MSPLUS™ |
| ZB-WAXPLUS™ |
| ZB-624PLUS™ |



## Inferno™

Resilient under even the most intense GC conditions, Inferno phases dare to defy high boilers, contaminants, and carry-overs.

|           |
|-----------|
| ZB-1HT    |
| ZB-5HT    |
| ZB-35HT   |
| ZB-XLB-HT |



## Unlimited

Designed for the truly bold GC scientist, Unlimited phases unleash the power of selectivity for targeted performance that breaks from the mold.

|                          |
|--------------------------|
| ZB-Dioxin                |
| ZB-PAH-EU                |
| ZB-PAH-CT                |
| ZB-DHA-PONA              |
| ZB-FAME                  |
| ZB-SemiVolatiles         |
| ZB-MultiResidue™ -1 & -2 |
| ZB-CLPesticides -1 & -2  |
| ZB-Drug-1                |
| ZB-BAC-1 & -2            |
| ZB-1XT SimDist           |
| ZB-Bioethanol            |

## Upgrade to Zebron!

Our commitment to quality and innovation is what makes Zebron GC columns well-suited for any application. Performance is GUARANTEED.

| Zebron Phase       | Zebron Composition                                  | Restek®  | Agilent®  | Supelco®  | SGE®                     | OV           |
|--------------------|---|--|---|---|--------------------------|--------------|
| ZB-1               | 100% Dimethylpolysiloxane                           | Rtx®-1, Rtx-1PONA, Rtx-1 F&F                     | DB®-1, DB-2887, DB-1 EVDX, HP-1, HP-101, HP-PONA, Ultra 1, CP-Sil 5 CB                  | SPB®-1, SPB-1 TG, SE-30, MET-1, SPB-1 Sulfur, SPB-HAP | BP1, BP1-PONA, BPX1-SimD | OV-1         |
| ZB-DHA-PONA        | 100% Dimethylpolysiloxane                           | Rtx-DHA  | HP-PONA, DB-PETRO, CP-Sil PONA CB   | Petrocol®-DH  |                          |              |
| ZB-1 PLUS™         | 100% Dimethylpolysiloxane                           | Rtx-1ms, Rxi®-1ms                                | DB-1ms, DB-1ms Ultra Inert, HP-1ms, HP-1ms Ultra Inert, CP-Sil 5 CB MS, VF-1ms          | MDN-1, Equity®-1                                      | SolGel-1ms™              |              |
| ZB-1HT Inferno™    | 100% Dimethylpolysiloxane                           | Rxi-1HT  | DB-1ht, CP-SimDist  | Petrocol 2887   |                          |              |
| ZB-1XT SimDist     | 100% Dimethylpolysiloxane                           | MXT®-1HT SimDist, MXT-1, MXT-1 SimDist, MXT-2887 | CP-SimDist UltiMetal, CP-Sil 8 CB UltiMetal, BPX1-SimD, DB-PS1, DB-HT SimDis, DB-PS2887 |   |                          |              |
| ZB-5               | 5% Phenyl<br>95% Dimethylpolysiloxane               | Rtx-5  | DB-5, HP-5, Ultra 2, HP-PAS-5, CP-Sil 8 CB, HP-5ms Ultra Inert                          | MDN-5, SPB-5, PTE-5, SE-54, PTA-5, Equity-5, Sac-5    | BP5, BPX5                | OV-5         |
| ZB-5 PLUS™         | 5% Phenyl<br>95% Dimethylpolysiloxane               | Rtx-5ms, Rxi-5ms, Rtx-5Amine                     | DB-5, HP-5ms, HP-5msi   | MDN-5S  |                          |              |
| ZB-5HT Inferno     | 5% Phenyl<br>95% Dimethylpolysiloxane               | Rxi-5HT, Rtx-5HT<br>Stx®-5HT, XTI®-5HT           | DB-5ht, VF-5ht  | HT-5  |                          |              |
| ZB-5ms             | 5% Phenyl-Arylene<br>95% Dimethylpolysiloxane       | Rtx-5Sil MS, Rxi-5Sil MS                         | DB-5ms, DB-5.625, VF-5ms, DB-5ms EVDX, CP-Sil 8 CB MS                                   |   |                          |              |
| ZB-5MS PLUS™       | 5% Phenyl-Arylene<br>95% Dimethylpolysiloxane       | Rxi-5Sil MS                                      | DB-5ms Ultra Inert, HP-5ms Ultra Inert, DB-5ms, VF-5ms                                  | SLB®-5ms  |                          |              |
| ZB-SemiVolatiles   | 5% Phenyl-Arylene<br>95% Dimethylpolysiloxane       | Rxi-5Sil MS, Rxi-5ms                             | DB-5ms Ultra Inert  | SLB-5ms   |                          |              |
| ZB-35              | 35% Phenyl<br>65% Dimethylpolysiloxane              | Rtx-35, Rtx-35ms                                 | DB-35, DB-35ms, HP-35, HP-35ms  | MDN-35, SPB-35, SPB-608                               | BPX35, BPX608            | OV-11        |
| ZB-35HT Inferno    | 35% Phenyl<br>65% Dimethylpolysiloxane              |  |   | Phenomenex Exclusive                                  |                          |              |
| ZB-50              | 50% Phenyl<br>50% Dimethylpolysiloxane              | Rtx-50   | DB-17, DB-17HT, DB-17ms, HP-50+, DB-17 EVDX, CP-Sil 24 CB                               | SP-2250, SPB-17, SPB-50                               | BPX50                    | OV-17        |
| ZB-624             | 6% Cyanopropylphenyl<br>94% Dimethylpolysiloxane    | Rtx-1301, Rtx-624                                | DB-1301, DB-624, DB-VRX, HP-VOC, CP-1301, CP-Select 624 CB                              | SPB-1301, SPB-624                                     | BP624                    | OV-624       |
| ZB-624 PLUS™       | Proprietary   | Rxi-624Sil MS                                    | CP-Select 624 CB, DB-624UI Ultra Inert  |   |                          |              |
| ZB-1701            | 14% Cyanopropylphenyl<br>86% Dimethylpolysiloxane   | Rtx-1701   | DB-1701, CP-Sil 19 CB   | SPB-1701, Equity-1701                                 | BP10                     | OV-1701      |
| ZB-1701P           | 14% Cyanopropylphenyl<br>86% Dimethylpolysiloxane   |  | DB-1701P  |   |                          |              |
| ZB-FAME            | High Cyanopropyl                                    |  | CP-Sil 88, HP-88, DB-23   | SP®-2560, SP-2380                                     |                          |              |
| ZB-WAX             | Polyethylene Glycol                                 | Rtx-WAX, Famewax, Stabilwax-DB                   | DB-WAXetr, HP-INNOWax, CP-Wax 57 CB   | MET-Wax, Omegawax                                     | SolGel-WAX™              |              |
| ZB-WAX PLUS™       | Polyethylene Glycol                                 | Stabilwax®                                       | DB-WAX, CAM, HP-20M, Carbowax 20M, CP-Wax 52 CB   | SUPELCO WAX® 10                                       | BP20                     | Carbowax 20M |
| ZB-FFAP            | Nitroterephthalic Acid Modified Polyethylene Glycol | Stabilwax-DA                                     | DB-FFAP, HP-FFAP, CP-FFAP CB CP-Wax 58 FFAP CB  | Nukol, SPB-1000                                       | BP21                     | OV-351       |
| ZB-MultiResidue™-1 | Proprietary   | Rtx-CLPesticides, Stx-CLPesticides               |   |   |                          |              |
| ZB-MultiResidue-2  | Proprietary   | Rtx-CLPesticides2, Stx-CLPesticides2             |   |   |                          |              |
| ZB-CLPesticides-1  | Proprietary   | Rtx-CLPesticides, Stx-CLPesticides               |   |   |                          |              |
| ZB-CLPesticides-2  | Proprietary   | Rtx-CLPesticides2, Stx-CLPesticides2             |   |   |                          |              |
| ZB-XLB             | Proprietary   | Rtx-XLB, Rxi-XLB                                 | DB-XLB, VF-XMS  | MDN-12  |                          |              |
| ZB-XLB-HT Inferno  | Proprietary   |  |   | Phenomenex Exclusive                                  |                          |              |
| ZB-Drug-1          | Proprietary   |  |   | Phenomenex Exclusive                                  |                          |              |
| ZB-BAC-1           | Proprietary   | Rtx-BAC1   | DB-ALC1   |   |                          |              |
| ZB-BAC-2           | Proprietary   | Rtx-BAC2   | DB-ALC2   |   |                          |              |
| ZB-Bioethanol      | Proprietary   |  |   | Phenomenex Exclusive                                  |                          |              |
| ZB-PAH-EU          | Proprietary   | Rxi-PAH  | DB-PAH-EU   |   |                          |              |
| ZB-PAH-CT          | Proprietary   |  | PAH-Select  |   |                          |              |
| ZB-Dioxin          | Proprietary   | Rtx-Dioxin-2                                     | DB-Dioxin, DB-225, DB-5MSUI   | SP-2330   |                          |              |

This section is, neither in terms of manufacturers nor in terms of their products, a complete list, and the accuracy of the data is not guaranteed. Small differences in dimensions or performance might be possible and slight adjustments to your application may be necessary.



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