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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S.No. | **Source** | **Model Equation** | **Dimension** | **Required Parameters** | **State** | **Source Dimension** | **Domain Dimension** | | | **Processes** | | |  | **Additional Information** |
| **Length** | **Width** | **Thickness** | **Chemical** | **Biological** | **Biochemical** | |
| 1 | Van genuchten (1985) |  | 1D | 1 | Transient | Point Source | Semi-Infinite | NA | NA | Linear Equilibrium Sorption | Sequential 1st Order Decay |  | |  |
| 2 | Latinopoulos et al.(1988) |  | 2D | 2 | Transient | Line Source | Semi-Infifnite | Infinite | NA | Linear Adsorption | 1st-Order Decay |  | |  |
| 3 | Domenico (1987) |  | 3D | 11 | Transient | Patch Source | Semi-Infinite | Infinite | Infinite | - | 1st Order-Decay |  | |  |
| 4 | Batu and Van genuchten (1990) |  | 2D | 7 | Transient | Line Source | Semi-Infinite | Infinite | NA | Linear Equilibrium Sorption | 1st Order-Decay |  | |  |
| 5 | F.J.Leij et al. (1993) |  | 3D |  | Transient | Planar Source | Semi-Infinite | Infinite | Infinite | Linear Retardation,Non-Equilibrium Solute Transport, Sorption | First-Order Decay |  | |  |
| 6 | V. batu(1996) |  | 3D |  |  | Rectangular | Source |  |  | Linear Equilibrium Isotherm | Decay |  | |  |
| 7 | F.J.Leij et al. (2000) |  | 3D | 8 | Transient | Planar | Infinite | Infinite | Semi-Infinite |  | First-Order Degradation |  | | First type condition |
|  | 9 |  |  | | Second type condition |
|  | 8 |  |  | | Third type condition (Film diffusion) |
|  | 8 |  |  | | Third type condition(vertical flow) |
| 8 | Cirpka et al. (2006) |  | 2D | 4 | Steady | Line Source | Semi-Infinite | NA | Semi-Infinite | Quasi-Instantaneous Rxn | - |  | |  |
| 9 | Cirpka and valocchi (2007) |  | 2D |  | Steady-State | Line Source | Semi-Infinite |  |  | Instantaneous Reaction | Double-Monod Kinetics With First-Order Biomass Decay |  | | The first biomass-decay model assumes a constant first-order decay coefficient, while the second assumes that the decay coefficient depends upon the electron-acceptor concentration |
|  |  |  |  | Double-Monod Kinetics With Concentration-Dependent Biomass Decay |  | |  |
| 10 | Srinivasan and clement (2008a) |  | 1D | 10 | Transient | Point Source | Semi-Infinite | NA | NA | Sorption | Sequential 1st - Order Decay |  | |  |
| 11 | Singh et al. (2009) |  | 1D | 6 | Transient | Point-Source | Finite | NA | NA | - | - |  | |  |
| 12 | Gutierrez-Neri et al.(2009) |  | 3D | 8 | Steady | Planar Source | Semi-Infinite | Infinite | Infinite | Instantaneous Reaction | 1st-Order Decay |  | |  |
| 13 | Hunkeler et al. (2010) |  | 2D | 9 | Transient | Line Source | Semi-Infinite | Infinite | Infinite | Instantaneous Reaction | 1st-Order Decay |  | |  |
|  | 3D | 10 | Planar Source |
| 14 | Kumar et al. (2010) |  | 1D | 6 | Transient | Point Source(  Continuous Input Concentration Of Uniform Nature) | Semi-Infinite | NA | NA | - | - | - | | Dispersion through inhomogeneous medium |
|  | 7 | Point Source(  Continuous Input Concentration Of Increasing Nature)(α≠1) | - | - | - | |
|  | 7 | Point Source (Continuous Input Concentration Of Increasing Nature)(α=1) | - | - | - | |
|  | 5 | Point Source (Continuous Input Concentration Of Uniform Nature | - | - | - | | Temporally dependent dispersion along uniform and Steady Flow |
|  | 5 | Point Source (Continuous Input Concentration Of Increasing Nature) | - | - | - | |
| 15 | Yadav and Jaiswal (2011) |  | 2D | 7 | Transient | Point Source | Semi-Infinite | Semi-Infinite | NA | - | 1st-Order Decay | - | |  |
| 16 | Guerrero et al. (2013) |  | 1D |  | Transient | Point Source | For Semi-Infinite and Finite Domain both | NA | NA | Linear Equilibrium Sorption | 1st-Order Decay | - | |  |
| 17 | Chen et al. (2016) |  | 2D | 9 | Transient | Irregular Shapes Of Linear, Planar And Volumetric Sources | Finite | Finite | NA | Linear Isothermal Equilibrium Sorption | Sequential 1st-Order Decay |  | |  |
| 18 | Sanskrityayn et al. (2017) |  | 1D | 8 | Transient | Point Source | Infinite | NA | NA | - | First-Order Decay |  | |  |
|  | 9 | Point Source | NA | NA |  | |  |
| 19 | Purkayastha & Kumar (2018) |  | 1D | 4 | Transient | Point Source | Finite | NA | NA | Linear Sorption | 1st-Order Decay |  | |  |