

Title : RESRAD Default Parameters  
File : FCS SOIL UNCERTAINTY ANALYSIS TC-99.RAD

Regression Coefficients for Peak All Pathways

| Description of Probabilistic Variable                          | Repetition =                               |       |       |       |       |       |       |       |       |       |       |       | Position in Variable List |
|--|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------------|
|  | Coefficient of Determination (R-squared) = |       |       |       |       |       |       |       |       |       |       |       |                           |
|  | 1  | 2     | 3     | 1     | 2     | 3     | 1     | 2     | 3     | 1     | 2     | 3     |                           |
|  | PRCC                                       | PRCC  | PRCC  | SRRC  | SRRC  | SRRC  | PCC   | PCC   | PCC   | SRC   | SRC   | SRC   |                           |
| Depth of roots   | -0.97                                      | -0.97 | -0.98 | -0.95 | -0.95 | -0.96 | -0.94 | -0.94 | -0.95 | -0.93 | -0.93 | -0.94 | 11                        |
| Evapotranspiration coefficient                                 | 0.49                                       | 0.52  | 0.61  | 0.12  | 0.14  | 0.14  | 0.34  | 0.38  | 0.40  | 0.12  | 0.13  | 0.14  | 3                         |
| Well pump intake depth   | -0.42                                      | -0.38 | -0.35 | -0.10 | -0.09 | -0.07 | -0.21 | -0.27 | -0.12 | -0.07 | -0.09 | -0.04 | 6                         |
| Kd of Tc-99 in Contaminated Zone                               | 0.29                                       | 0.31  | 0.37  | 0.07  | 0.07  | 0.08  | 0.18  | 0.09  | 0.25  | 0.06  | 0.03  | 0.08  | 16                        |
| Runoff coefficient   | 0.24                                       | 0.27  | 0.26  | 0.05  | 0.06  | 0.05  | 0.10  | 0.20  | 0.12  | 0.03  | 0.07  | 0.04  | 5                         |
| Indoor dust filtration factor                                  | 0.05                                       | 0.14  | 0.01  | 0.01  | 0.03  | 0.00  | 0.03  | 0.11  | 0.06  | 0.01  | 0.03  | 0.02  | 9                         |
| Depth of soil mixing layer                                     | -0.05                                      | -0.08 | -0.05 | -0.01 | -0.02 | -0.01 | 0.00  | -0.04 | -0.04 | 0.00  | -0.01 | -0.01 | 10                        |
| Mass loading for inhalation                                    | 0.08                                       | 0.06  | 0.04  | 0.02  | 0.01  | 0.01  | 0.09  | 0.10  | 0.05  | 0.03  | 0.03  | 0.02  | 8                         |
| Weathering removal constant of all vegetation                  | -0.07                                      | 0.02  | -0.07 | -0.02 | 0.01  | -0.01 | 0.00  | 0.06  | -0.05 | 0.00  | 0.02  | -0.02 | 13                        |
| Kd of Tc-99 in Saturated Zone                                  | -0.01                                      | -0.03 | -0.07 | 0.00  | -0.01 | -0.01 | -0.04 | 0.00  | -0.05 | -0.01 | 0.00  | -0.02 | 18                        |
| Humidity in air  | 0.05                                       | 0.04  | -0.02 | 0.01  | 0.01  | 0.00  | 0.03  | 0.06  | -0.02 | 0.01  | 0.02  | -0.01 | 15                        |
| b Parameter of Unsaturated zone 1                              | -0.04                                      | 0.01  | 0.08  | -0.01 | 0.00  | 0.02  | -0.07 | -0.08 | 0.02  | -0.02 | -0.03 | 0.01  | 7                         |
| Wind Speed   | 0.02                                       | 0.00  | 0.03  | 0.00  | 0.00  | 0.01  | 0.04  | -0.02 | -0.05 | 0.01  | -0.01 | -0.01 | 4                         |
| Kd of Tc-99 in Unsaturated Zone 1                              | 0.03                                       | 0.03  | -0.02 | 0.01  | 0.01  | 0.00  | 0.01  | -0.01 | -0.07 | 0.00  | 0.00  | -0.02 | 17                        |
| Contaminated zone erosion rate                                 | 0.00                                       | -0.02 | -0.01 | 0.00  | 0.00  | 0.00  | -0.07 | -0.11 | -0.05 | -0.03 | -0.04 | -0.02 | 1                         |
| Wet foliar interception fraction of leafy vegetables           | 0.01                                       | 0.02  | 0.00  | 0.00  | 0.00  | 0.00  | -0.01 | 0.03  | -0.06 | 0.00  | 0.01  | -0.02 | 14                        |
| Wet weight crop yield of fruit, grain and non-leafy vegetables | 0.04                                       | -0.05 | -0.01 | 0.01  | -0.01 | 0.00  | 0.01  | -0.03 | -0.02 | 0.00  | -0.01 | -0.01 | 12                        |
| Contaminated zone b parameter                                  | -0.01                                      | -0.02 | 0.04  | 0.00  | 0.00  | 0.01  | -0.02 | -0.04 | -0.01 | -0.01 | -0.01 | 0.00  | 2                         |

The coefficient of determination ranges from 0 to 1; it provides a measure of the variation in the dependent variable (Dose or Risk) that is explained by the variation in the independent variables under the assumed linear regression model.