TABLE C-2-3

TOTAL INHALATION CANCER RISK: CARCINOGENS

(Page 1 of 1)

Description
Cancer risk to the individual via inhalation are added across all COPCs that are carcinogenic via the direct inhalation route of exposure. Uncertainties associated with this equation include the following: (1)   *Total Cancer Risk* assumes that different carcinogens affect the same target organ to produce a cancer response, ignoring potential antagonistic or synergistic effects or disparate effects on different target organs. This assumption may overestimate *Total Cancer Risk*. (2)   The summation of cancer risks across multiple COPCs means that the uncertainties associated with estimating cancer risk for each COPC are also summed. This means *Total Cancer Risk*, as defined below, is unlikely to be overestimated.

Equation
$$Total\ Cancer\ Risk_{inh} = \sum_{i} Cancer\ Risk_{inh(i)}$$

Variable	Description	Units	Value
Total Cancer Risk$_{inh}$	Total individual lifetime cancer risk through direct inhalation of all COPC carcinogens	unitless	
Cancer Risk$_{inh(i)}$	Individual lifetime cancer risk through direct inhalation for COPC carcinogen *i*	unitless	**Varies** This variable is COPC- and site-specific, and is calculated by using the equation in Table C-2-1. The equation in Table C-2-2 is used if the carcinogenic slope factor is available for the COPC. Uncertainties associated with this variable include the following: (1) COPC-specific *URF* values are unlikely to underestimate, and may overestimate, the carinogenic potential of COPCs because of the mathematical models and the use of uncertainty factors in the estimation of these values. (2) Most of the uncertainties associated with the variables used to calculate C_a, specifically *Q, Cyv,* and *Cyp*, are site-specific.