

US EPA ARCHIVE DOCUMENT

TABLE C-1-6

TOTAL DAILY INTAKE

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Description

This equation calculates the daily intake of COPC via all indirect exposure pathways. As discussed in Chapter 4 and Table 4-1, the indirect exposure pathways considered in the calculation of the total daily intake of COPCs are specific to the recommended exposure scenario evaluated and the representative exposure setting. Daily intake values from exposures scenarios which are not evaluated in a respective exposure scenario may be assumed to be zero when calculating the total daily intake of COPC (I).

Uncertainties associated with this equation include the following:

- (1) The uncertainties associated with estimates of total intake are those associated with each of the medium- or tissue-specific intakes.
- (2) To the extent that medium- or tissue-specific intakes do not accurately represent site-specific local conditions local conditions, I may be under- or overestimated.

Equation

$$I = I_{soil} + I_{ag} + I_{beef} + I_{milk} + I_{fish} + I_{pork} + I_{poultry} + I_{eggs} + I_{dw}$$

Variable	Description	Units	Value
I	Total daily intake of COPC	mg/kg-day	
I_{soil}	Daily intake of COPC from soil	mg/kg-day	Varies This variable is COPC- and site-specific, and is calculated by using the equation in Table C-1-1. The value for this variable will vary for each receptor and each exposure scenario location. Uncertainties associated with this variable include the following: (1) The amount of soil intake is assumed to be constant and representative of the exposed population. This assumption may under- or overestimate I_{soil}. (2) The standard assumptions regarding period exposed may not be representative of any actual exposure situation. This assumption may under- or overestimate I_{soil}.

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Variable	Description	Units	Value
I_{ag}	Daily intake of COPC from aboveground produce	mg/kg-day DW	Varies This variable is COPC- and site-specific, and is calculated by using the equation in Table C-1-2. The value for this variable will vary for each receptor and each exposure scenario location. Uncertainties associated with this variable include the following: (1) The amount of produce intake is assumed to be constant and representative of the exposed population. This assumption may under- or overestimate I_{ag}. (2) The standard assumptions regarding period exposed may not be representative of any actual exposure situation. This assumption may under- or overestimate I_{ag}.
I_{beef} ; I_{milk} ; I_{pork} ; $I_{poultry}$; I_{eggs}	Daily intake of COPC from beef, milk, pork, poultry, and eggs	mg/kg-day FW	Varies This variable is COPC- and site-specific, and is calculated by using the equation in Table C-1-3. The value for this variable will vary for each receptor and each exposure scenario location. Uncertainties associated with this variable include the following: (1) The amount of animal tissue intake is assumed to be constant and representative of the exposed population. This assumption may under- or overestimate I_{beef}, I_{milk}, I_{pork}, $I_{poultry}$, and I_{eggs}. (2) The standard assumptions regarding period exposed may not be representative of any actual exposure situation. This assumption may under- or overestimate I_{beef}, I_{milk}, I_{pork}, $I_{poultry}$, and I_{eggs}.
I_{fish}	Daily intake of COPC from fish	mg/kg-day FW	Varies This variable is COPC- and site-specific, and is calculated by using the equation in Table C-1-4. The value for this variable will vary for each water body evaluated. Uncertainties associated with this variable include the following: (1) The amount of fish intake is assumed to be constant and representative of the exposed population. This assumption may under- or overestimate I_{fish}. (2) The standard assumptions regarding period exposed may not be representative of any actual exposure situation. This assumption may under- or overestimate I_{fish}.

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Variable	Description	Units	Value
I_{dw}	Daily intake of COPC from drinking water	mg/kg-day	Varies This variable is COPC- and site-specific, and is calculated by using the equation in Table C-1-5. The value for this variable will vary for each water body evaluated. Uncertainties associated with this variable include the following: (1) The amount of drinking water intake is assumed to be constant and representative of the exposed population. This assumption may under- or overestimate I_{dw}. (2) The standard assumptions regarding period exposed may not be representative of any actual exposure situation. This assumption may under- or overestimate I_{dw}.