

**THE GENERIC RESIDENTIAL DRINKING WATER CRITERION FOR 1,4-DIOXANE IS CALCULATED AS FOLLOWS:**

$$DWV_{ca} = \frac{TR \times AT_{ca} \times CF}{SF \times EF_{res} \times IF_{dw}}$$

where,

<b>DWV<sub>ca</sub></b>	<b>(Drinking water value)</b>	<b>= 7.2 µg/L or ppb</b>
<b>TR</b>	<b>(Target risk level)</b>	<b>= 10<sup>-5</sup></b>
<b>AT<sub>ca</sub></b>	<b>(Averaging time)</b>	<b>= 28,470 days</b>
<b>CF</b>	<b>(Conversion factor)</b>	<b>= 1,000 µg/mg</b>
<b>SF</b>	<b>(Oral cancer slope factor)</b>	<b>= 0.1 (mg/kg-day)<sup>-1</sup></b>
<b>EF<sub>res</sub></b>	<b>(Exposure frequency)</b>	<b>= 350 days/year</b>
<b>IF<sub>dw</sub></b>	<b>(Age-adjusted drinking water ingestion factor)</b>	<b>= 1.1245 L-year/kg-day</b>

The age-adjusted drinking water ingestion factor is calculated as follows:

**IF<sub>dw</sub> for carcinogens and noncarcinogens:**

$$IF_{dw} = \left( \frac{IR_{dw,age <1-6} \times ED_{age <1-6}}{BW_{age <1-6}} \right) + \left( \frac{IR_{dw,adult} \times ED_{adult}}{BW_{adult}} \right)$$

where,

<b>IF<sub>dw</sub></b>	<b>(Age-adjusted drinking water ingestion factor)</b>	<b>= 1.1 L-year/kg-day</b>
<b>IR<sub>dw,age &lt;1-6</sub></b>	<b>(Drinking water ingestion rate, child)</b>	<b>= 0.78 L/day</b>
<b>ED<sub>age &lt;1-6</sub></b>	<b>(Exposure duration, child)</b>	<b>= 6 years</b>
<b>BW<sub>age &lt;1-6</sub></b>	<b>(Body weight, child)</b>	<b>= 15 kg</b>
<b>IR<sub>dw,adult</sub></b>	<b>(Drinking water ingestion rate, adult)</b>	<b>= 2.5 L/day</b>
<b>ED<sub>adult</sub></b>	<b>(Exposure duration, adult)</b>	<b>= 26 years</b>
<b>BW<sub>adult</sub></b>	<b>(Body weight, adult)</b>	<b>= 80 kg</b>