



**CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)  
HUMAN AND ECOLOGICAL RISK OFFICE (HERO)**

**HUMAN HEALTH RISK ASSESSMENT (HHRA)**

**HERO HHRA NOTE NUMBER: 7**

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**ISSUE:** Updated OEHHA Inhalation Cancer Toxicity Criteria for Tetrachloroethylene (PCE) and DTSC Recommended Ambient Air and Soil Gas Screening Levels (DTSC-SLs).

**SUMMARY**

The Office of Environmental Health Hazard Assessment (OEHHA) on September 8, 2016 adopted an updated inhalation cancer unit risk factor (URF) for tetrachloroethylene (PCE or perchloroethylene). The updated PCE URF is the geometric mean of four dose-response values.

HERO has received multiple inquiries on the possible implications for the risk assessments of PCE due to the recent changes in the PCE inhalation toxicity criteria published by OEHHA on September 8, 2016. This notice is a response to those inquiries until HERO is able to update our HHRA Note 3 – DTSC-Modified Screening Levels (DTSC-SLs), and should be used in conjunction with the June 2016 HHRA Note 3. The next update to the HHRA Note 3 will be issued December 2016/January 2017 and will include the changes in PCE toxicity criteria.

Table 1 shows the former and the revised recommended residential and commercial/ industrial ambient air and soil gas DTSC-SLs for PCE. PCE inhalation toxicity criteria are shown in Table 2.

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**Table 1. Recommended DTSC Screening Levels for Tetrachloroethylene (PCE)**

	New Recommended Screening Level <sup>1</sup> (µg/m <sup>3</sup> ) (DTSC-SL)	Former Recommended Screening Level <sup>2</sup> (µg/m <sup>3</sup> ) (DTSC-SL)
Residential Air	0.46	0.48
Current Resident Soil Gas (α=0.002) <sup>3</sup>	230	240
Future Resident Soil Gas (α =0.001) <sup>3</sup>	460	480
<b>Industrial Air</b>		
Industrial Air	2	2.1
Current Commercial/Industrial Soil Gas (α =0.001) <sup>3</sup>	2000	2100
Future Commercial/Industrial Soil Gas (α =0.0005) <sup>3</sup>	4000	4200

<sup>1</sup>The OEHHA 2016 toxicity criteria are used in the calculation of the screening levels.

<sup>2</sup>The OEHHA 1991 toxicity criteria are used in the calculation of the screening levels.

<sup>3</sup>The attenuation factors are from Table 2 of the 2011 *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*

[http://www.dtsc.ca.gov/AssessingRisk/upload/Final\\_VIG\\_Oct\\_2011.pdf](http://www.dtsc.ca.gov/AssessingRisk/upload/Final_VIG_Oct_2011.pdf).

**Table 2. DTSC Recommended Tetrachloroethylene (PCE) Toxicity Criteria**

	Current Toxicity Criteria Recommended by DTSC	Former Toxicity Criteria Recommended by DTSC
Inhalation Unit Risk Factor (per µg/m <sup>3</sup> )	6.1E-06 <sup>a</sup>	5.9E-06 <sup>b</sup>
Oral Cancer Slope Factor (per mg/kg-day)	5.4E-01 <sup>c</sup>	5.4E-01 <sup>c</sup>

<sup>a</sup>2016 OEHHA toxicity criteria.

<sup>b</sup>1991 OEHHA toxicity criteria.

<sup>c</sup>DTSC recommends using the oral cancer slope factor derived in the OEHHA public health goal document.