



## Human Health PRG Table 14a DEQ TPH RBC Workbook and November 2022 EPA RSL Chemical Data Comparison

### Notes:

Grey highlighting indicates a chemical parameter that is calculated in the TPH RBC workbooks.

Blue highlighting indicates November 2022 EPA RSL chemical data values that are different from those in the 2018 and 2021 TPH RBC workbooks.

--: Not available

1. Chemical data values from the ChemData tab of the 2021 RA-1-COMP-2021deq.xlsm workbook provided with DEQ's December 16, 2021, PRG memorandum (DEQ 2021).
2. The workbook used a temperature of 293 Kelvin (20°C).
3. Values are temperature-dependent.
4. Chemical data values from the ChemData tab of the 2018 RA-1-COMP-7-18-FC\_rev.xlsm workbook provided in the July 19, 2018, Anchor QEA email to DEQ (Anchor QEA 2018).
5. Chemical data values from the November 2022 EPA RSL.
6. Values at 25°C.
7. Value calculated from November 2022 EPA RSL S (mg/L) and P ( $\mu\text{g}/\text{m}^3$ ).
8. Values calculated from November 2022 EPA RSL Koc.

$\mu\text{g}/\text{m}^3$ : microgram per cubic meter

$\text{cm}^2/\text{s}$ : square centimeter per second

$\text{cm}^3/\text{g}$ : cubic centimeter per gram

Dair: diffusion coefficient in air

DEQ: Oregon Department of Environmental Quality

Dw: diffusion coefficient in water

EPA: U.S. Environmental Protection Agency

$\text{g}/\text{cm}^3$ : gram per cubic centimeter

$\text{g}/\text{mol}$ : grams per mole

H': Henry's constant (unitless)

KH: Henry's constant ( $\text{m}^3\text{-atm}/\text{mol}$ )

Koc: organic-carbon partition coefficient

Log: logarithm

$\text{m}^3\text{-atm}/\text{mol}$ : atmospheres cubic meter per mole

$\text{mg}/\text{L}$ : milligram per liter

MW: molecular weight

nv: non-volatile

P: vapor pressure

PRG: preliminary remediation goal

RBC: risk-based concentration

RSL: regional screening level

S: solubility

TPH: total petroleum hydrocarbons

v: volatile

Vol Class: volatility classification

### References:

Anchor QEA, 2018. Email to: Mike Poulsen, DEQ. Regarding: Site-specific TPH RBC Calculations - Questions. July 19, 2018.

DEQ, 2021. *Contaminants of Concern, Risk-Based Criteria, and Preliminary Remediation Goals; Former Gasco Manufacturing Gas Plant Operable Unit*. December 16, 2021.

EPA, 2022. Regional Screening Levels (RSLs) Tables as of: November 2022. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>.



## Human Health PRG Table 14b DEQ TPH RBC Workbook and EPA RSL and PPRTV Toxicity Data Comparison

### Notes:

Grey highlighting indicates a toxicity parameter that is calculated in the TPH RBC workbooks.

Blue highlighting indicates November 2022 EPA RSL or 2022 EPA PPRTV toxicity data values that are different from those in the 2018 and 2021 TPH RBC workbooks.

--: Not available

1. Toxicity data values from the ToxData tab of the 2021 RA-1-COMP-B-2021deq.xlsx workbook provided with DEQ's December 16, 2021, PRG memorandum (DEQ 2021).
2. Toxicity data values from the ToxData tab of the 2018 RA-1-COMP-B-7-18-FC\_rev.xlsx workbook provided in the July 19, 2018, Anchor QEA email to DEQ (Anchor QEA 2018).
3. Toxicity data values from the November 2022 EPA RSL (EPA 2022a).
4. Toxicity data values from the 2022 EPA PPRTV (EPA 2022b).

B: relative hydrophobicity

cm/hr: centimeter per hour

DAw: dermal absorption factor for groundwater – construction or excavation worker

DEQ: Oregon Department of Environmental Quality

EPA: U.S. Environmental Protection Agency

hr: hour

Kp: dermal permeability coefficient

L/cm<sup>2</sup>-event: liter per square centimeter per event

mg/kg-day: milligram per kilogram per day

mg/m<sup>3</sup>: milligram per cubic meter

PPRTV: Provisional Peer-Reviewed Toxicity Value

PRG: preliminary remediation goal

RAFd: Relative dermal absorption factor

RBC: risk-based concentration

RfCi: reference concentration

RfDo: reference dose

t\*: time to reach steady state

t: lag time

TPH: total petroleum hydrocarbons

### References:

Anchor QEA, 2018. Email to: Mike Poulsen, DEQ. Regarding: Site-specific TPH RBC Calculations - Questions. July 19, 2018.

DEQ, 2021. *Contaminants of Concern, Risk-Based Criteria, and Preliminary Remediation Goals; Former Gasco Manufacturing Gas Plant Operable Unit*. December 16, 2021.

EPA, 2022a. Regional Screening Levels (RSLs) Tables as of: November 2022. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>.

EPA, 2022b. *Provisional Peer-Reviewed Toxicity Values for The Aliphatic Low Carbon Range Total Petroleum Hydrocarbon (TPH) Fraction (various CASRNs)*. September 2022.