Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – SP1010

Erratum (December 2014)

Main Report

- **Page 10:** Delete final sentence of first paragraph and replace with paragraph later in same section describing the document's publication history.

- **Page 11:** Delete lead-in sentence and three bullet points at end of Section 1.0 (beginning "This reflects..." and ending "...peer review".).

- **Page 14:** Delete final paragraph of Section 1.3 (beginning "Which of..." and ending "...2013).").

- **Page 34:** Second line from top – replace "higher than" with "of".

- **Page 61 (Table 3.3):** Top two produce types for cadmium are green and root vegetables, not root and tuber as stated. Top two produce types for hexavalent chromium are tuber vegetables and tree fruit, not root vegetables and tree fruit as stated.

- **Page 73 (Table 3.6):** Occupancy period (indoors), information in "value" column should say: AC4: 23 hour.day^{-1}; AC 5-12: 19 hour.day^{-1}; AC13-16: 15 hour.day^{-1}; AC17-18: 16 hour.day^{-1}.

- **Page 76: Section 3.6.4.3, 7th para, 1st and 2nd sentences:** should say **"**A value of 50 mg.day^{-1} is selected as the soil ingestion rate for POS_{park} for age classes **1-12** on the basis of the proportion of the daily ingestion rate (100 mg.day^{-1}) assigned by the USEPA (2011) to direct soil ingestion from outdoor sources (50%). A soil ingestion rate of 20 mg.day^{-1} is assigned to adults by the USEPA (2011) and this value is recommended here when considering age classes **13-18** (e.g. for lifetime exposure)." (As opposed to 50 mg.day^{-1} for age classes 1-16 and 20 mg.day^{-1} for age classes 17-18 as stated).

- **Page 76 (Table 3.7):** Soil ingestion rate, information in "value" column should say AC1-12: 50 mg.day^{-1}; AC13-18: 20 mg.day^{-1}. Also, add note regarding use of adult soil ingestion rate for teenagers.

- **Page 94:** Delete final paragraph of Section 5.4 (beginning "It is important..." and ending "...2013).").

Appendix C (Arsenic)

- **Section 2.1.1 (second paragraph)**: delete TOX 3.
- **Section 2.1.4 (Table 2.2)**: average BMD_1 from Chen et al 2010a should be 9.1.
- **Section 2.1.8 (opening sentence)**: Change 0.09 to 0.02, 'margin of 50' to 'margin of 250' and '1 in 10,000' to '1 in 50,000'.
- **Table 2.7:** Inhalation rate and $LLTC_{inhal}$ for POS_{resi} should be 11 $m^3.day^{-1}$ and 6.9 ng kg-1 bw day^{-1}, respectively.
- **Table 4.1**: pC4SLs for POS_{park} should be 170 mg/kg not 168 mg/kg (two significant figures).
- **Table 4.5**: pC4SLs for POS_{park} should be 170 mg/kg not 168 mg/kg (two significant figures).

Important Note: The SP1010 Policy Companion Document has been updated to reflect the amendments to the pC4SL for arsenic

Appendix D (Benzene)

- **Section 2.1.1:** ELCR needs to be spelled out in para 3 not para 5.
- **Section 2.1.2 (2b para 6)**: UF of 300 rather than 270.
- **Section 2.2.4**: intake values should be 5, 0.5 and 0.05 µg kg^{-1} bw day-1, respectively, rather than 4, 0.5 and 0.05…
- **Section 2.2.4 (in table):** air concentration for 1 in 50000 should be 3.4 ug/m^3 rather than 3.2.
- **Section 2.2.5**: air concentration of 5 µg m^{-3} rather than 5 ng m^{-3}.
- **Section 2.2.6 (Table 2.3)**: delete footnote 2.
- **Section 2.2.6 (Table 2.3)**: Inhalation rate and $LLTC_{inhal}$ for POS_{resi} should be 11 $m^3.day^{-1}$ and 2.6 µg kg^{-1} bw day-1, respectively.
- **Section 4.1 (Table 4.1)**: pC4SL for POS_{park} exposure changes only should be 110 mg/kg not 113 mg/kg (two significant figures).
- **Section 4.5 (Table 4.5)**: pC4SL for POS_{park} exposure changes only should be 110 mg/kg not 113 mg/kg (two significant figures).

Appendix E (Benzo-a-pyrene)

- **Table 2.4:** Inhalation rate for POS_{resi} should be 11 $m^3.day^{-1}$.
- **Table 4.1 and Table 4.5**: pC4SLs for commercial should be 77 $mg.kg^{-1}$ and not 76 $mg.kg^{-1}$ as reported.
- **Section 4.2.4**: pC4SL for commercial should be changed from 76 to 77 $mg.kg^{-1}$.

Important Note: The SP1010 Policy Companion Document has been updated to reflect the amendments to the pC4SL for benzo(a)pyrene

Appendix F (Cadmium)

- **Throughout document**: change $LLTC_{inhalation}$ to $LLTC_{inhal}$.
- **Section 2.1.8 (2nd paragraph)**: Edit units in paragraph starting Figure 2.3, taken from EFSA….twice it should be µg kg^{-1} bw day^{-1}. Last line of this paragraph change 10% to '5% of the population'.
- **Section 2.2.4 (4th paragraph)**: In the sentence 'As the marker concentrations….' change units to mg kg^{-1} bw day^{-1}.
- **Section 3.1, page 23, 3rd para, 3rd sentence:** should say "Note that for consumption of homegrown produce CLEA predicts the greatest exposure to cadmium from **green** vegetables and **root** vegetables for both the residential and allotments scenarios." (As opposed to root and tuber vegetables as stated).

  This has implications for the pC4SLs for residential with consumption of homegrown produce and allotments land-uses. The reader is referred to the updated version of the appendix for details.
- **Section 4.1 (Table 4.1)**: pC4SL for POS_{park} exposure changes only should be 560 mg/kg not 555 mg/kg. pC4SL for residential (without consumption of homegrown produce) with changes in LLTC should be 150 mg/kg not 146 mg/kg. pC4SL for residential (without consumption of homegrown produce) with changes in exposure and LLTC should be 150 mg/kg not 149 mg/kg. pC4SL for commercial with changes to LLTC should be 420 mg/kg, not 417 mg/kg. All to reflect rounding to two significant figures.

  In addition, pC4SL for residential (with homegrown produce) with exposure changes only should be 14 mg/kg not 17 mg/kg. pC4SL for allotments with exposure changes only should be 2.4 mg/kg not 3.1 mg/kg. pC4SL for residential (with homegrown produce) with changes in exposure and LLTC should be 22 mg/kg not 26 mg/kg. pC4SL for

allotments with changes in exposure and LLTC should be 3.9 mg/kg not 4.9 mg/kg.

- **Section 4.5 (Table 4.5)**: pC4SL for POS_{park} exposure changes only should be 560 mg/kg not 555 mg/kg. pC4SL for residential (without consumption of homegrown produce) with changes in LLTC should be 150 mg/kg not 146 mg/kg. pC4SL for residential (without consumption of homegrown produce) with changes in exposure and LLTC should be 150 mg/kg not 149 mg/kg. pC4SL for commercial with changes to LLTC should be 420 mg/kg, not 417 mg/kg. All to reflect rounding to two significant figures.

Important Note: The SP1010 Policy Companion Document has been updated to reflect the amendments to the pC4SL for cadmium

Appendix G (Chromium (VI))

- **Section 2.1.2 (2a, paragraph 6)**: dose of 1 µg kg^{-1} bw day^{-1} rather than 1 µg m^{-3}.

- **Table 2.5:** Inhalation rate and $LLTC_{inhal}$ for POS_{resi} should be 11 $m^3.day^{-1}$ and 0.27 ng kg^{-1} bw day^{-1}, respectively.

- **Section 3.1, page 23, 3rd para, 3rd sentence:** should say "Note that for consumption of homegrown produce CLEA predicts the greatest exposure to chromium (VI) from **tuber** vegetables and **tree** fruit for both the residential and allotments scenarios (via ingestion of soil attached to produce)." (As opposed to root vegetables and tree fruit as stated).

- **Table 4.1**. POS_{resi} (with changes in exposure and LLTC) should be 21 $mg.kg^{-1}$, not 23 $mg.kg^{-1}$.

- **Section 4.2.1, page 29, 3rd para, point (1):** $LLTC_{inhal}$ should be 3.4 x 10^{-4} $ug.kg^{-1}$ bw day^{-1}

- **Section 4.2.2, page 31, 2nd para, point (1):** $LLTC_{inhal}$ should be 3.4 x 10^{-4} $ug.kg^{-1}$ bw day^{-1}

- **Section 4.2.3, page 32, point (1):** $LLTC_{inhal}$ should be 1.5 x 10^{-4} $ug.kg^{-1}$ bw day^{-1}

- **Table 4.5**. POS_{resi} (LLTCs with suggested changes to exposure parameters) should be 21 $mg.kg^{-1}$, not 23 $mg.kg^{-1}$.

Important Note: The SP1010 Policy Companion Document has been updated to reflect the amendments to the pC4SL for hexavalent chromium

Appendix H (Lead)

- **Section 2.2.1 (page 8, para 6)**: 'have not been included' i.e. typo - insert space.

- **Section 2.2.4 (page 12, para 3)**: Delete whole of sentence starting 'It would seem pragmatic , given the variations……to a 1 point reduction in IQ'.

- **Table 3.1**: Add solubility in water of 2.96 $x10^{5}$ $mg.L^{-1}$, 'Pb proportion of lead nitrate solubility (473.5 $g.L^{-1}$ at 10 ºC; Lide, 2008)[1]' and soil-water partition coefficient (Kd) of 1000 $cm^{3}.g^{-1}$ 'reference value for loam recommended by Thorne et al (2005)[2]'.

- **Table 3.5:** The geomean value for green vegetables should be $4.19e^{-3}$ mg g^{-1} FW plant over mg g^{-1} DW soil.

- **Section 4.1 (Table 4.1)**: pC4SL for commercial with LLTC of 0.57 ug/kg/d should be 2200 mg/kg not 2160 mg/kg; for LLTC of 0.63 ug/kg/d should be 2300 mg/kg not 2330 mg/kg and for LLTC of 0.89 ug/kg/d should be 2700 mg/kg not 2690 mg/kg. All to reflect rounding to two significant figures.

Important Note: The SP1010 Policy Companion Document has been updated to reflect the amendments to the pC4SL for lead

[1] LIDE D.R., 2008. CRC Handbook of Chemistry and Physics. Eighty-eigth Edition. Boca Raton, Florida: CRC Press.

[2] THORNE M., MAUL P., ROBINSON P. 2005. The PRISM Foodchain Modelling Software, Parameter Values for Soil/Plant Model, QRS-1198A-3, Version 1.1. London: Food Standards Agency