

This draft includes revisions based on the July 19, 2018, meeting discussion. The revisions are highlighted in yellow.

DEQ is not requesting public comments on this draft. The next comment period will commence upon publication of the proposed rule in the September 5, 2018, issue of the Idaho Administrative Bulletin. The proposed rule comment deadline is October 3, 2018.

## Option 1

In this option, the toxicity information in Table 2, Residential Use Screening Levels, and Table 3, Default Toxicity Values for Risk Evaluation, would be updated and transferred to the Idaho Risk Evaluation Manual for Petroleum Releases.

### 008. ~~LIST OF TABLES.~~

~~The following tables are found in Section 800.~~ (5-8-09)

01. ~~Table 1—Chemicals of Interest for Various Petroleum Products.~~ The table of chemicals of interest for various petroleum products is available in Section 800 of these rules. (5-8-09)

02. ~~Table 2—Residential Use Screening Levels~~ Screening Level Concentrations for Soil, Ground Water, and Soil Vapor. The table of screening level concentrations for soil, ground water, and soil vapor is available in the Idaho Risk Evaluation Manual for Petroleum Releases at [www.deq.idaho.gov](http://www.deq.idaho.gov). (5-8-09)

03. ~~Table 3—Default Toxicity Values for Risk Evaluation.~~ The table of default toxicity values for risk evaluation is available in the Idaho Risk Evaluation Manual for Petroleum Releases at [www.deq.idaho.gov](http://www.deq.idaho.gov). (5-8-09)

(BREAK)

### 100. CHEMICALS EVALUATED AT PETROLEUM RELEASE SITES.

01. **General Applicability.** For petroleum sites governed by Sections 851 and 852 of IDAPA 58.01.02, “Water Quality Standards,” the chemicals listed in ~~Subsection 800.01 (Table 1)~~ Section 800, table of chemicals of interest for various petroleum products, will be evaluated based on the specific petroleum product or products known or suspected to have been released. (5-8-09)

02. **Additional Chemicals.** Evaluation of non-petroleum chemicals in addition to those in ~~Subsection 800.01 (Table 1)~~ Section 800, table of chemicals of interest for various petroleum products, may be required by the Department when there is a reasonable basis based on site-specific information. A reasonable basis shall be demonstrated by the Department when it can show documentation of releases or suspected releases of other non-petroleum chemicals. (5-8-09)

101. -- 199. (RESERVED)

**200. RISK EVALUATION PROCESS.**

The following risk evaluation process shall be used for petroleum releases in accordance with the Petroleum Release Response and Corrective Action Rules described in IDAPA 58.01.02, “Water Quality Standards,” Section 852. (5-8-09)

**01. Screening Evaluation.** The screening evaluation may be performed at any time during the release response and corrective action process described in IDAPA 58.01.02, “Water Quality Standards,” Section 852. The screening evaluation shall include, at a minimum: (5-8-09)

a. Collection of media-specific (soil, surface water, ground water) data; and (5-8-09)

b. Identification of maximum soil, ground water, and soil vapor petroleum chemical concentrations for the chemicals identified in ~~Subsection 800.01 (Table 1)~~ Section 800, table of chemicals of interest for various petroleum products, as appropriate for the petroleum product or products released. (3-29-12)

c. Comparison of the maximum media-specific petroleum contaminant concentrations to the screening levels identified in ~~Subsection 800.02 (Table 2)~~ the table of screening level concentrations for soil, ground water, and soil vapor in the Idaho Risk Evaluation Manual for Petroleum Releases. If the maximum media-specific petroleum contaminant concentrations at a site do not exceed the screening levels, the owner and/or operator may petition for site closure, subject to other Department regulatory obligations. If the maximum media-specific concentrations at a site exceed the screening levels, the owner and/or operator shall proceed to: (5-8-09)

(BREAK)

**300. SITE SPECIFIC RISK EVALUATION REQUIREMENTS.**

**01. General Requirements.** The general requirements for human health risk evaluations shall include, at a minimum: (5-8-09)

a. A conceptual site model which describes contaminant sources; release mechanisms; the magnitude, spatial extent, and temporal trends of petroleum contamination in all affected media; transport routes; current and reasonably likely future land use and human receptors; and relevant exposure scenarios. (5-8-09)

b. Toxicity Information derived from ~~Subsection 800.03 (Table 3)~~ the table of default toxicity values for risk evaluation in the Idaho Risk Evaluation Manual for Petroleum Releases. (5-8-09)

(BREAK)

**400. ESTABLISHMENT OF REMEDIATION STANDARDS.**

If, as a result of the assessment and risk evaluation completed as described in Section 300, it is determined that corrective action is required, remediation standards shall be established. The remediation standards established in these rules shall be no more stringent than applicable or relevant and appropriate federal and state standards and are consistent with Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. Section 9621) and Section 39-107D(2), Idaho Code, taking into consideration site specific conditions. These standards, and any activity use limitations proposed for the site, shall be established as part of a corrective action plan approved in writing by the Department. The standards may consist of the following. (5-8-09)

**01. Screening Levels.** The petroleum contaminant concentrations in soil, ground water, and soil vapor in ~~Subsection 800.02 (Table 2)~~ the table of screening level concentrations for soil, ground water, and soil vapor in the Idaho Risk Evaluation Manual for Petroleum Releases. (3-29-12)

(BREAK)

800. TABLES.

01. — Table 1. Chemicals of Interest for Various Petroleum Products.  
[This table is not a subject of the negotiated rulemaking and is not included in this rule draft.]

(BREAK)

02. — Table 2. Residential Use Screening Levels.

RESIDENTIAL USE SCREENING LEVELS						
CHEMICALS	SOIL		GROUNDWATER			SOIL VAPOR <sup>e</sup>
	Screening Level [mg/kg]	Critical Pathway	Screening Level [mg/L]	Critical Pathway	Basis for Ingestion Screening Level <sup>d</sup>	
Benzene	0.025	GWP <sup>a</sup>	0.005	Ingestion	MCL <sup>b</sup>	31
Toluene	6.6	GWP	1.0	Ingestion	MCL	520,000
Ethylbenzene	0.25	Vapor Intrusion	0.05	Vapor Intrusion	N/A	97
Total Xylenes	27	Vapor Intrusion	8.7	Vapor Intrusion	N/A	10,000
Naphthalene	0.12	Vapor Intrusion	0.07	Vapor Intrusion	N/A	7.2
MTBE <sup>c</sup>	0.08	GWP	0.04	Ingestion	Risk-Based	940
Ethylene dibromide (EDB)	0.0001	GWP	0.00005	Ingestion	MCL	0.4
1,2-Dichloroethane	0.013	GWP	0.005	Ingestion	MCL	9.4
Acenaphthene	200	GWP	2.2	Ingestion	Risk-Based	N/A
Anthracene	3200	GWP	11	Ingestion	Risk-Based	N/A

Benz(a)anthracene	0.09	GWP	0.00003	Ingestion	Risk-Based	N/A
Benzo(a)pyrene	0.02	Direct-Contact	0.0002	Ingestion	MCL	N/A
Benzo(b)fluoranthene	0.2	Direct-Contact	0.00003	Ingestion	Risk-Based	N/A
Benzo(k)fluoranthene	1.9	Direct-Contact	0.0003	Ingestion	Risk-Based	N/A
Chrysene	9.5	GWP	0.003	Ingestion	Risk-Based	N/A
Fluoranthene	1,400	GWP	1.5	Ingestion	Risk-Based	N/A
Fluorene	240	GWP	1.5	Ingestion	Risk-Based	N/A
Pyrene	1,000	GWP	1.1	Ingestion	Risk-Based	N/A
<del>a. Ground Water Protection Via Petroleum Contaminants in Soil Leaching to Ground Water</del>						
<del>b. Maximum contaminant level</del>						
<del>c. Methyl tert-butyl ether</del>						
<del>d. For the ingestion pathway, the source of the target level is indicated (MCL or a risk-based calculation).</del>						
<del>e. Soil vapor measurements obtained at greater than 3-5 feet below ground surface.</del>						

(3-29-12)

**03. Table 3. Default Toxicity Values for Risk Evaluation.**

DEFAULT TOXICITY VALUES FOR RISK EVALUATION							
CHEMICALS	CAS Number <sup>a</sup>	Oral Slope Factor (SF <sub>o</sub> ) (kg-day/mg)	Inhalation Unit Risk (IUR) (ug/m <sup>3</sup> )	Oral Reference Dose (RfD <sub>o</sub> ) (mg/kg-day)	Inhalation Reference Concentration (RfC) (mg/m <sup>3</sup> )	Oral-RA <sup>b</sup> Factor (RAF <sub>o</sub> )	Dermal-RA Factor (RAF <sub>d</sub> )
Benzene	71-43-2	0.055	7.8E-06	0.004	0.03	4	0
Toluene	108-88-3	NA	NA	0.08	5.0	4	0
Ethylbenzene	100-41-4	0.011	2.5E-06	0.1	1.0	4	0
Total Xylenes	1330-20-7	NA	NA	0.2	0.1	4	0

Naphthalene	91-20-3	NA	3.4E-05	0.02	0.003	4	0.13
MTBE <sup>e</sup>	1634-04-4	0.0018	2.6E-07	NA	3.0	4	0
1,2-Dichloroethane	107-06-2	0.091	2.6E-05	0.006	0.007	4	0
Ethylene Dibromide	106-93-4	2	6.0E-04	0.009	0.009	4	0
Acenaphthene	83-32-9	NA	NA	0.06	NA	4	0.13
Anthracene	120-12-7	NA	NA	0.3	NA	4	0.13
Benz(a)anthracene	56-55-3	0.73	1.1E-04	NA	NA	4	0.13
Benzo(a)pyrene	50-32-8	7.3	1.1E-03	NA	NA	4	0.13
Benzo(b)fluoranthene	205-99-2	0.73	1.1E-04	NA	NA	4	0.13
Benzo(k)fluoranthene	207-08-9	0.073	1.1E-04	NA	NA	4	0.13
Chrysene	218-01-9	0.0073	1.1E-05	NA	NA	4	0.13
Fluoranthene	206-44-0	NA	NA	0.04	NA	4	0.13
Fluorene	86-73-7	NA	NA	0.04	NA	4	0.13
Pyrene	129-00-0	NA	NA	0.03	NA	4	0.13
<b>Notes:</b>							
<del>a-Chemical Abstract Service</del>							
<del>b-Relative Absorption</del>							
<del>c-Methyl tert-butyl ether</del>							
<b>NA:</b> No data available							
Source of toxicity values is the Regional Screening Level Summary Table (May 2011) found at the U.S. EPA Regional Screening Table website. The website is located at <a href="http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm">http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm</a> .							

(3-29-12)

## Option 2

In this option, the toxicity information in Table 2, Residential Use Screening Levels, and Table 3, Default Toxicity Values for Risk Evaluation, would be updated and maintained in the rule.

### 800. TABLES.

01. Table 1. Chemicals of Interest for Various Petroleum Products.  
 [This table is not a subject of the negotiated rulemaking and is not included in this rule draft.]

02. Table 2. Residential Use Screening Levels.

RESIDENTIAL USE SCREENING LEVELS						
CHEMICALS	SOIL		GROUNDWATER			SOIL VAPOR <sup>e</sup>
	Screening Level [mg/kg]	Critical Pathway	Screening Level [mg/L]	Critical Pathway	Basis for Ingestion Screening Level <sup>d</sup>	Screening Level [ug/m <sup>3</sup> ]
Benzene	0.025	GWP <sup>a</sup>	0.005	Ingestion	MCL <sup>b</sup>	3412
Toluene	6.6	GWP	1.0	Ingestion	MCL	520,000 <del>17,000</del>
Ethylbenzene	0.25	Vapor Intrusion	0.05	Vapor Intrusion	N/A	97 <del>37</del>
Total Xylenes	27	Vapor Intrusion	8.7	Vapor Intrusion	N/A	10,000 <del>3,500</del>
Naphthalene	0.12	Vapor Intrusion	0.07	Vapor Intrusion	N/A	7.2 <del>2.8</del>
MTBE <sup>c</sup>	0.08	GWP	0.04	Ingestion	Risk-Based	940 <del>3,600</del>
Ethylene dibromide (EDB)	0.0004	GWP	0.00005	Ingestion	MCL	0.40 <del>16</del>
1,2-Dichloroethane	0.013	GWP	0.005	Ingestion	MCL	9.4 <del>3.6</del>

Acenaphthene	200	GWP	2.2	Ingestion	Risk-Based	N/A
Anthracene	3200	GWP	11	Ingestion	Risk-Based	N/A
Benz(a)anthracene	0.009-68	GWP	0.00003-0.00022	Ingestion	Risk-Based	N/A-56
Benzo(a)pyrene	0.029-14	Direct Contact	0.0002	Ingestion	MCL	N/A
Benzo(b)fluoranthene	0.21-4	Direct Contact	0.00003-0.00022	Ingestion	Risk-Based	N/A
Benzo(k)fluoranthene	1.914	Direct Contact	0.00030-0.0022	Ingestion	Risk-Based	N/A
Chrysene	9.569	GWP	0.0030-0.022	Ingestion	Risk-Based	N/A
Fluoranthene	1,400	GWP	1.5	Ingestion	Risk-Based	N/A
Fluorene	240	GWP	1.5	Ingestion	Risk-Based	N/A
Pyrene	1,000	GWP	1.1	Ingestion	Risk-Based	N/A

a. Ground Water Protection Via Petroleum Contaminants in Soil Leaching to Ground Water

b. Maximum contaminant level

c. Methyl tert-butyl ether

d. For the ingestion pathway, the source of the target level is indicated (MCL or a risk based calculation).

e. Soil vapor measurements obtained at greater than 3-5 feet below ground surface, sub-slab or near source soil gas concentrations

(3-29-12)

03. Table 3. Default Toxicity Values for Risk Evaluation.

DEFAULT TOXICITY VALUES FOR RISK EVALUATION							
CHEMICALS	CAS Number <sup>a</sup>	Oral Slope Factor (SF <sub>o</sub> ) (kg-day/mg)	Inhalation Unit Risk (IUR) (ug/m <sup>3</sup> )	Oral Reference Dose (RfD <sub>o</sub> ) (mg/kg-day)	Inhalation Reference Concentration (RfC) (mg/m <sup>3</sup> )	Oral-RA <sup>b</sup> Factor (RAF <sub>o</sub> )	Dermal-RA Factor (RAF <sub>d</sub> )
Benzene	71-43-2	0.055	7.8E-06	0.004	0.03	4	9
Toluene	108-88-3	NA	NA	0.08	5.0	4	9

Ethylbenzene	100-41-4	0.011	2.5E-06	0.1	1.0	4	9
Total Xylenes	1330-20-7	NA	NA	0.2	0.4	4	9
Naphthalene	91-20-3	NA	3.4E-05	0.02	0.003	4	0.13
MTBE <sup>c</sup>	1634-04-4	0.0018	2.6E-07	NA	3.0	4	9
1,2-Dichloroethane	107-06-2	0.091	2.6E-05	0.006	0.007	4	9
Ethylene Dibromide	106-93-4	2	6.0E-04	0.009	0.009	4	9
Acenaphthene	83-32-9	NA	NA	0.06	NA	4	0.13
Anthracene	120-12-7	NA	NA	0.3	NA	4	0.13
Benz(a)anthracene	56-55-3	0.730.1	1.1E-04	NA	NA	4	0.13
Benzo(a)pyrene	50-32-8	7.31	1.1E-03	NA3.0E-04	NA	4	0.13
Benzo(b)fluoranthene	205-99-2	0.730.1	1.1E-04	NA	NA	4	0.13
Benzo(k)fluoranthene	207-08-9	0.0730.01	1.1E-04	NA	NA	4	0.13
Chrysene	218-01-9	0.00730.001	1.1E-05	NA	NA	4	0.13
Fluoranthene	206-44-0	NA	NA	0.04	NA	4	0.13
Fluorene	86-73-7	NA	NA	0.04	NA	4	0.13
Pyrene	129-00-0	NA	NA	0.03	NA	4	0.13
<b>Notes:</b>							
a Chemical Abstract Service							
b Relative Absorption							
c Methyl tert-butyl ether							
NA: No data available							
Source of toxicity values is the Regional Screening Level Summary Table (May 2011 <del>2018</del> ) found at the U.S. EPA Regional Screening Table website. The website is located at <a href="http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm">http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm</a> .							

(3-29-12)