Table 2-1. Summary of acute aquatic toxicity data for 6PPD and 6PPD-q

Chemical	Receptor (general)	Receptor (specific)	Benchmark Value (LC_{50} or EC_{50})	Units	Duration	Endpoint	Reference
6PPD	Fish	Coho salmon, *Oncorhynchus kisutch*	251	µg/L	24h	Mortality	(Tian et al. 2021)
6PPD	Fish	Japanese medaka, *Oryzias latipes*	28	µg/L	96h	Mortality	(Japan Ministry of the Environment 2018)
6PPD	Fish	Japanese medaka, *Oryzias latipes*	< 107	µg/L	96h	Mortality	(Hiki et al. 2021)
6PPD	Fish	Rainbow trout, *Oncorhynchus mykiss*	> 50	µg/L	96h	Mortality	(Nair et al. 2023)**
6PPD	Fish	Zebrafish, *Danio rerio*	442.62	µg/L	96h	Mortality	(Varshney et al. 2022)
6PPD	Fish	Zebrafish, *Danio rerio*	2,200	µg/L	96h	Mortality	(Peng et al. 2022)
6PPD	Fish	Zebrafish, *Danio rerio*	737	µg/L	96h	Mortality	(Fang et al. 2023)
6PPD	Fish	Zebrafish, *Danio rerio*	>137	µg/L	96h	Mortality	(Hiki et al. 2021)
6PPD	Invertebrate	Amphipod, *Hyalella azteca*	250	µg/L	96h	Mortality	(Prosser, Bartlett, et al. 2017)
6PPD	Invertebrate	Fatmucket mussel, *Lampsilis siliquoidea*	439	µg/L	48h	Viability	(Prosser, Gillis, et al. 2017)
6PPD	Invertebrate	Water flea, *Daphnia magna*	230	µg/L	48h	Mortality	(Japan Ministry of the Environment 2018)
6PPD	Invertebrate	Water flea, *Daphnia magna*	< 138	µg/L	48h	Mortality	(Hiki et al. 2021)
6PPD	Invertebrate	Wavy-rayed lampmussel, *Lampsilis fasciola*	137	µg/L	48h	Viability	(Prosser, Gillis, et al. 2017)
6PPD	Plant/algae	Algae, *Selenastrum capricornutum*	600	µg/L	96h	Cell number	(Monsanto Company 1978, as cited in OECD 2004)
6PPD-q	Fish	Arctic char, *Salvelinus alpinus*	> 14.2	µg/L	96h	Mortality	(Brinkmann et al. 2022)
6PPD-q	Fish	Atlantic salmon, *Salmo salar*	> 12.16	µg/L	48h	Mortality	(Foldvik et al. 2022)
6PPD-q	Fish	Brook trout fingerlings, *Salvelinus fontinalis*	0.5	µg/L	24h	Mortality	(Philibert et al. 2024)
6PPD-q	Fish	Brook trout fry, *Salvelinus fontinalis*	0.2	µg/L	24h	Mortality	(Philibert et al. 2024)
6PPD-q	Fish	Brook trout, *Salvelinus fontinalis*	0.59	µg/L	24h	Mortality	(Brinkmann et al. 2022)
6PPD-q	Fish	Brown trout, *Salmo trutta*	> 12.16	µg/L	48h	Mortality	(Foldvik et al. 2022)
6PPD-q	Fish	Chinese rare minnow, *Gobiocypris rarus*	> 500	µg/L	96h	Mortality	(Di et al. 2022)
6PPD-q	Fish	Chinook salmon, *Oncorhynchus tshawytscha*	> 2.5	µg/L	24h	Mortality	(Montgomery et al. 2023)
6PPD-q	Fish	Chinook salmon, *Oncorhynchus tshawytscha*	> 67.307	µg/L	24h	Mortality	(Lo et al. 2023)
6PPD-q	Fish	Chinook salmon, *Oncorhynchus tshawytscha*	82.1	µg/L	24h	Mortality	(Greer et al. 2023)
6PPD-q	Fish	Coho salmon, *Oncorhynchus kisutch*	0.041	µg/L	24h	Mortality	(Lo et al. 2023)
6PPD-q	Fish	Coho salmon, *Oncorhynchus kisutch*	0.0804	µg/L	24h	Mortality	(Greer et al. 2023)
6PPD-q	Fish	Coho salmon, *Oncorhynchus kisutch*	0.095	µg/L	24h	Mortality	(Tian et al. 2022)
6PPD-q	Fish	Fathead minnow, *Pimephales promelas*	>9.65	µg/L	96h	Mortality	(Anderson-Bain et al. 2023)
6PPD-q	Fish	Japanese medaka, *Oryzias latipes*	> 34	µg/L	96h	Mortality	(Hiki et al. 2021)
6PPD-q	Fish	Lake trout, *Salvelinus namaycush*	0.5	µg/L	24h	Mortality	(Roberts et al. 2024)**
6PPD-q	Fish	Lake trout, *Salvelinus namaycush*	0.51	µg/L	96h	Mortality	(Roberts et al. 2024)**
6PPD-q	Fish	Masu salmon, *Oncorhynchus masou masou*	> 3.5	µg/L	96h	Mortality	(Hiki and Yamamoto 2022)
6PPD-q	Fish	Pink salmon, *Oncorhynchus gorbuscha*	> 12.8	µg/L	48h	Mortality	(Foldvik et al. 2024)
6PPD-q	Fish	Pink Salmon, *Oncorhynchus gorbuscha*	>12.8	µg/L	48h	Mortality	(Foldvik et al. 2024)
6PPD-q	Fish	Rainbow trout, *Oncorhynchus mykiss*	0.64	µg/L	96h	Mortality	(Nair et al. 2023) **
6PPD-q	Fish	Rainbow trout, *Oncorhynchus mykiss*	1	µg/L	96h	Mortality	(Brinkmann et al. 2022)
6PPD-q	Fish	Rainbow trout, *Oncorhynchus mykiss*	2.26	µg/L	96h	Mortality	(Di et al. 2022)
6PPD-q	Fish	Sockeye salmon, *Oncorhynchus nerka*	> 50	µg/L	24h	Mortality	(Greer et al. 2023)
6PPD-q	Fish	Southern Asian dolly varden, *Salvelinus curilus*	> 3.8	µg/L	96h	Mortality	(Hiki and Yamamoto 2022)
6PPD-q	Fish	Westslope cutthroat trout, *Oncorhynchus clarkii lewisi*	>10	µg/L	24h	Mortality	(Montgomery et al. 2023)

Table 2-1. Summary of acute aquatic toxicity data for 6PPD and 6PPD-q

Chemical	Receptor (general)	Receptor (specific)	Benchmark Value (LC_{50} or EC_{50})	Units	Duration	Endpoint	Reference
6PPD-q	Fish	White spotted char, *Salvelinus leucomaenis pluvius*	0.51	µg/L	96h	Mortality	(Hiki and Yamamoto 2022)
6PPD-q	Fish	White sturgeon, *Acipenser transmontanus*	> 12.7	µg/L	96h	Mortality	(Brinkmann et al. 2022)
6PPD-q	Fish	Zebrafish, *Danio rerio*	> 54	µg/L	96h	Mortality	(Hiki et al. 2021)
6PPD-q	Fish	Zebrafish, *Danio rerio*	132.92	µg/L	96h	Mortality	(Varshney et al. 2022)
6PPD-q	Fish	Zebrafish, *Danio rerio*	> 1,000	µg/L	12h	Mortality	(Ji et al. 2022)
6PPD-q	Invertebrate	Amphipod, *Hyalella azteca*	> 43	µg/L	96h	Mortality	(Hiki et al. 2021)
6PPD-q	Invertebrate	Freshwater rotifer, *Brachionus calyciflorus*	> 10,000	µg/L	NR	Mortality	(Klauschies and Isanta-Navarro 2022)
6PPD-q	Invertebrate	Marine amphipod, *Parhyale hawaiensis*	> 500	µg/L	96h	Mortality	(Botelho et al. 2023)
6PPD-q	Invertebrate	Marine rotifer, *Brachionus koreanus*	> 1,000	µg/L	24h	Mortality	(Maji et al. 2023)
6PPD-q	Invertebrate	Mayfly, *Hexagenia* spp.	>53.4	µg/L	4d	Mortality	(Prosser, Salole, and Hang 2023)
6PPD-q	Invertebrate	Mayfly, *Hexagenia* spp.	>232	µg/L	4d	Mortality	(Prosser, Salole, and Hang 2023)
6PPD-q	Invertebrate	Washboard mussel, *Megalonaias nervosa*	>11.4	µg/L	8d	Mortality	(Prosser, Salole, and Hang 2023)
6PPD-q	Invertebrate	Washboard mussel, *Megalonaias nervosa*	>17.9	µg/L	8d	Mortality	(Prosser, Salole, and Hang 2023)
6PPD-q	Invertebrate	Water flea, *Daphnia magna*	> 46	µg/L	48h	Mortality	(Hiki et al. 2021)
6PPD-q	Plant/algae	Algae, *Chlamydomonas reinhardtii*	0.84 (LOEC)	uM	72h	Relative growth rate	(Wu et al. 2023)

Notes: **=Citation is pre-proof, presentation, or non-peer-reviewed articles µg/L=micrograms per liter; d=days, dw=dry weight, h=hours, LOEC=lowest observed effect concentration; kg=kilogram, mg=milligram

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