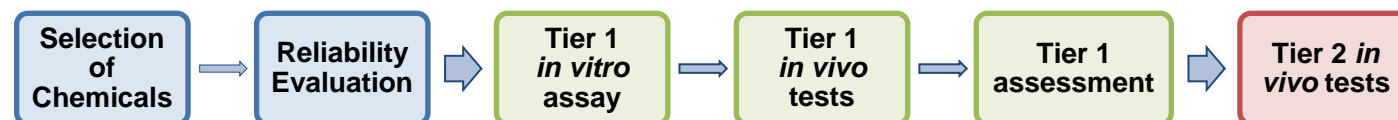


Propyl 4-Hydroxybenzoate (Propyl Paraben) (CAS no. 94-13-3)

[Current status]

Finished Tier 2 *In vivo* tests



Results of Reliability Evaluation (based on literature information)

Suggested Effects							
Estrogenic	Anti-estrogenic	Androgenic	Anti-androgenic	Thyroidal	Anti-thyroidal	Ecdysone	Others*
P	P	-	-	-	-	-	P

P: Effects suggested by existing information

-: Effects NOT suggested by existing information

Others*: Hypothalamic-Pituitary-Gonad Axis etc.

Results of Tier 1 *In vitro* tests

Tested Mode of Actions							
Estrogenic	Anti-estrogenic	Androgenic	Anti-androgenic	Thyroidal	Anti-thyroidal	Ecdysone	Others
P	N	N	N	-	-	-	-

P: EC₅₀ or IC₅₀ values were detected

N: EC₅₀ or IC₅₀ values were not detected

To be implemented: Mode of actions selected but not tested yet

-: Mode of actions not selected for testing

Results of Tier 1 *in vivo* tests

Fish Short Term Reproduction Assay (FSTRA: OECD TG229) using Medaka

An increase in male hepatic vitellogenin level was observed at sublethal concentrations, indicating its estrogenic effect.

Results of Tier 2 *In vivo* tests

The Medaka Extended One-Generation Test (MEOGRT: OECD TG240)

Fish were exposed to 9.9, 32.6, 99.4, 328 and 1,040 µg/L (measured concentrations) for 19 weeks. At levels where no significant

decrease in hatching rate of F1 was not observed (99.4 µg/L and lower), a significant increase in male (reproductive adult stage of F0 generation) liver vitellogenin level was observed. Thus, propyl 4-hydroxybenzoate was identified as estrogenic.

At 328 µg/L and higher, a significant decrease was observed in hatching rate of F1 generation, indicating developmental toxicity to Medaka. This lowest observed effect concentration (LOEC) was ca. 20,500 times as high as the highest environmental water concentration of 0.016 µg/L that was measured in MOE's Environmental Survey and Monitoring of Chemicals in FY 2012.

The exposure level which did not indicate reproductive toxicity (NOEC) to Medaka was 99.4 µg/L, and ca. 6,200 times as high as the highest environmental water concentration of 0.016 µg/L that was measured in MOE's Environmental Survey and Monitoring of Chemicals in FY 2012.