

6	CAS No.: 106-41-2	Substance: <i>p</i> -bromophenol
<p>Chemical Substances Control Law Reference No.: 3-896 (Bromophenol) PRTR Law Cabinet Order No.: 2-67</p> <p>Molecular Formula: C₆H₅BrO Molecular Weight: 173.01</p> <p style="text-align: center;">Structural Formula:</p> <div style="text-align: center;">  </div>		
<p>1. General Information</p> <p>The aqueous solubility of this substance is 1.40×10^4 mg/L and the partition coefficient (1-octanol/water) (log Kow) is 2.59. The vapor pressure is 0.0115 mmHg (= 1.54 Pa) (25°C). Degradability (aerobic degradation) in terms of BOD-based degradation percentage is estimated to be 0%. This substance is determined to be non or not highly bioaccumulative.</p> <p>This substance is a Type 2 and Type 3 Monitoring Chemical Substance under the Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances and a Class 2 Designated Chemical Substance under the Law concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law). The substance is considered to be mainly used for disinfectants, and the present investigation reveals that it has not been registered as an active agricultural ingredient. Production and import quantities under the PRTR Law came to 1 ton.</p> <p>-----</p> <p>2. Exposure assessment</p> <p>As this substance is not a Class 1 Designated Chemical Substance under the Law concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law), release and transfer quantities could not be obtained. When predictions of distribution ratios by medium were made using the Mackay-Type Level III Fugacity Model, in the event of equal release to the atmosphere, water, and soil, the distribution ratio was highest for soil.</p> <p>The predicted environmental concentration (PEC), which indicates exposure to aquatic organisms, was estimated to be less than 0.07 µg/L for both freshwater and seawater public water bodies.</p> <p>-----</p> <p>3. Initial assessment of ecological risk</p> <p>With regard to acute toxicity, reliable information of a 72-hour median effective concentration (EC₅₀) growth inhibition value of 9,190 µg/L was found for the algae <i>Pseudokirchneriella subcapitata</i>, a 48-hour EC₅₀ immobilization value of 4,180 µg/L was found for the crustacea <i>Daphnia magna</i> (water flea), a 96-hour median lethal concentration (LC₅₀) value of 8,730 µg/L was found for the fish <i>Oryzias latipes</i> (medaka), and a 60-hour median inhibitory growth concentration (IGC₅₀) value of 36,100 µg/L was found for another organism, the tetrahymena <i>Tetrahymena pyriformis</i>. Accordingly, an assessment factor of 100 was used, and a predicted no effect concentration (PNEC) of 42 µg/L was obtained based on the acute toxicity values. With regard to chronic toxicity, reliable information of a 72-hour no observed effect concentration (NOEC) growth inhibition value of 2,000 µg/L was found for the algae <i>P. subcapitata</i>, and a 21-day NOEC reproduction value of 297 µg/L was found for the crustacea <i>D. magna</i>. Accordingly, an assessment factor of 100 was used, and a PNEC value of 3.0 µg/L was obtained based on the chronic toxicity values. As the PNEC for the substance, a value of 3.0 µg/L obtained from the chronic toxicity for the crustacea was used.</p> <p>The PEC/PNEC ratio was less than 0.02 for both freshwater bodies and seawater bodies. Accordingly, further work</p>		

is thought to be unnecessary at this time.

Hazard assessment (basis for PNEC)			Assessment factor	Predicted no effect concentration PNEC (µg/L)	Exposure assessment		PEC/PNEC ratio	Result of assessment
Species	Acute / chronic	Endpoint			Water body	Predicted environmental concentration PEC (µg/L)		
Crustacea (water flea)	Chronic	NOEC reproduction	100	3.0	Freshwater	<0.07	<0.02	○
					Seawater	<0.07	<0.02	

4. Conclusion

	Conclusions	Judgment
Ecological risk	No need for further work.	○

[Risk judgments] ○: No need for further work ▲: Requiring information collection
 ■: Candidates for further work ×: Impossibility of risk characterization
 () : Though a risk characterization cannot be determined, there would be little necessity of collecting information.
 () : Further information collection would be required for risk characterization.