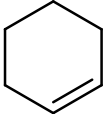


2	CAS No.: 110-83-8	Substance: Cyclohexene
<p>Chemical Substances Control Law Reference No.: 3-2234</p> <p>PRTR Law Cabinet Order No.:</p> <p>Molecular Formula: C<sub>6</sub>H<sub>10</sub>                      Structural formula:</p> <p>Molecular Weight: 82.14</p> <div style="text-align: center;">  </div>		
<p><b>1. General information</b></p> <p>The aqueous solubility of this substance is 250 mg/L (25°C), the partition coefficient (1-octanol/water) (log K<sub>ow</sub>) is 2.99, and the vapor pressure is 89.0 mmHg (=1.19×10<sup>4</sup> Pa) (25°C). Biodegradability (aerobic degradation) is limited, and bioaccumulation is judged to be low. The substance is stable with respect to hydrolysis (pH=4, 7, 9, 50°C, 5 days).</p> <p>This substance is designated as a Type III Monitoring Chemical Substance under the Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances. It is primarily used as an intermediate raw material for cyclohexanol, L-lysine, specialty solvents, and cyclohexane oxide, as well as an organic synthesis raw material for other compounds. The production and import quantity in 2008 was 134,601 t.</p> <hr/> <p><b>2. Exposure assessment</b></p> <p>Because 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. Predictions of distribution by medium using a Mackay-type level III fugacity model indicated that if equal quantities were released to the atmosphere, water bodies, and soil, the proportion distributed to water bodies would be greater.</p> <p>The predicted environmental concentration (PEC), which indicates exposure to aquatic organisms, was around 0.013 µg/L for public freshwater bodies and generally 0.00034 µg/L for seawater.</p> <hr/> <p><b>3. Initial assessment of ecological risk</b></p> <p>With regard to acute toxicity, the following reliable data were obtained: a 72-h median effective concentration (EC<sub>50</sub>) of more than 3,570 µg/L for growth inhibition in the green algae <i>Pseudokirchneriella subcapitata</i>; a 48-h EC<sub>50</sub> of 2,100 µg/L for swimming inhibition in the in the crustacean <i>Daphnia magna</i>; and a 96-h median lethal concentration (LC<sub>50</sub>) of 5,800 µg/L for the fish species <i>Oryzias latipes</i> (medaka). Accordingly, based on these acute toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) of 21 µg/L was obtained.</p> <p>With regard to chronic toxicity, the following reliable data were obtained: a 72-h no observed effect concentration (NOEC) of 3,570 µg/L for growth inhibition in the green algae <i>P. subcapitata</i>; and a 21-d NOEC of 740 µg/L for reproductive inhibition in the crustacean <i>D. magna</i>. Accordingly, based on these chronic toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) of 7.4 µg/L was obtained. The value of 7.4 µg/L obtained from chronic toxicity to the crustacean was used as the PNEC for this substance.</p> <p>The PEC/PNEC ratio was 0.002 for freshwater bodies and 0.00005 for seawater, and for this reason, further work is considered unnecessary at present.</p>		

Hazard assessment (basis for PNEC)			Assessment factor	Predicted no effect concentration PNEC (µg/L)	Exposure assessment		PEC/PNEC ratio	Assessment result
Species	Acute/chronic	Endpoint			Water body	Predicted environmental concentration PEC (µg/L)		
Crustacean <i>Daphnia magna</i>	Chronic	NOEC Reproductive inhibition	100	7.4	Freshwater	0.013	0.002	○
					Seawater	0.00034	0.00005	

#### 4. Conclusions

	Conclusions	Judgment
Ecological risk	No need of further work at present.	○

[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.