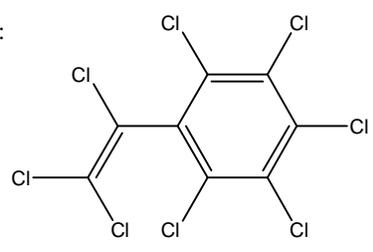


3	CAS No.: 29082-74-4	Substance: Octachlorostyrene
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Chemical Substances Control Law Reference No.:
 PRTR Law Cabinet Order No.:

Structural Formula:

Molecular Formula: C₈Cl₈
 Molecular Weight: 379.71



1. General information

The aqueous solubility of this substance is 1.7×10^{-3} mg/L (25°C, calculated value) and the partition coefficient (1-octanol/water) (log Kow) is 7.5 (calculated value). The vapor pressure is 1.3×10^{-5} mmHg (1.8×10^{-3} Pa) (25°C, calculated value).

There is no data on use of this unintentionally produced substance, and therefore the substance is not considered to be produced for commercial use. The substance is generated as a by-product in high temperature industrial processes using chlorine and primarily released from drainage of such processes. In addition, releases through leaching into groundwater from landfills with chlorinated tar waste and emission of fly ash from waste incineration into air have been reported.

2. Exposure assessment

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), no information on release and transfer quantities could 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.

The predicted environmental concentration (PEC), which indicates exposure to aquatic organisms, was estimated to be less than 0.01 µg/L for freshwater and less than 0.01 µg/L for seawater public water bodies.

3. Initial assessment of ecological risk

With regard to acute toxicity, reliable information of a 48-hour median effective concentration (EC₅₀) immobilization value of 5.8 µg/L was found for the crustacea *Daphnia magna* (water flea). No applicable findings on algae or fish were obtained; however, acute toxicity values for the green algae *Pseudokirchneriella subcapitata* and the medaka *Oryzias latipes* were considered to be above solubility levels. Therefore, a predicted no effect concentration (PNEC) based on acute toxicity was determined to be 0.058 µg/L with an assessment factor of 100. With regard to chronic toxicity, reliable information of a 21-day no observed effect concentration (NOEC) reproduction value of 0.91 µg/L was found for the crustacea *D. magna*. There were no applicable findings on algae, but chronic toxicity values for the green algae *P. subcapitata* were considered to be above solubility levels, and therefore a PNEC based on chronic toxicity was determined to be 0.0091 µg/L with an assessment factor of 100. As the PNEC for the substance, a value of 0.0091 µg/L obtained from the chronic toxicity for the crustacea was used.

The PEC/PNEC ratio was less than 1.1 for both freshwater bodies and seawater bodies, and the ecological risk could not be determined at this time. It should be required to review the substance concerning the need for investigation of environmental concentrations with the lower detection limit reducing.

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	0.0091	Freshwater	<0.01	<1.1	×
					Seawater	<0.01	<1.1	

4. Conclusions

	Conclusions	Judgment
Ecological risk	Risk characterization is impossible. It should be required to review the substance concerning the need for investigation of environmental concentrations with the lower detection limit reducing.	(▲)

[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.