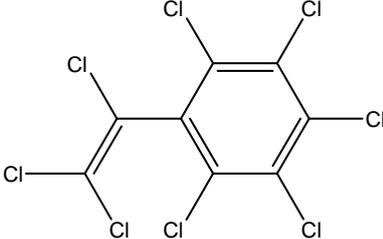


1	CAS No.: 29082-74-4	Substance: Octachlorostyrene
Chemical Substances Control Law Reference No.: PRTR Law Cabinet Order No.: Molecular Formula: C ₈ Cl ₈ Molecular Weight: 379.71		
		Structural Formula: 

1. General information

The aqueous solubility of this substance is 1.7×10^{-3} mg/L (25°C, calculated value), the partition coefficient (1-octanol/water) ($\log K_{ow}$) is 6.29, and the vapor pressure is 1.3×10^{-5} mmHg (1.8×10^{-3} Pa) (25°C, calculated value).

This substance is formed unintentionally. For this reason, there is no information available regarding its applications and it is not believed to be manufactured on a commercial basis. The main emission source of this substance is as a byproduct in effluent discharged from high-temperature processes that utilize chlorine. Additional sources that have been cited include seepage from landfill sites containing chlorinated tar, and emission of fly ash to the atmosphere via incineration of waste. In addition, the substance is said to be a major component of incomplete combustions of chlorinated organic compounds.

2. Exposure assessment

Because this substance is not classified as a Class 1 Designated Chemical Substance under the PRTR Law, release and transfer quantities could not be obtained. Predictions of proportions distributed to individual media by 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 soil would be largest.

The predicted environmental concentration (PEC), which indicates exposure to aquatic organisms, was less than around 0.000046 µg/L for both public freshwater bodies and seawater.

3. Initial assessment of ecological risk

With regard to acute toxicity, the following reliable data was obtained: a 48-h EC₅₀ of 5.8 µg/L for swimming inhibition in the crustacean *Daphnia magna*. No values for algae and fish species were obtained that could be used, but the acute toxicities to the algae *Pseudokirchneriella subcapitata* and the fish species *Oryzias latipes* (medaka) were considered to exceed the degree of solubility. Accordingly, an assessment coefficient of 100 was applied and a predicted no effect concentration (PNEC) of 0.058 µg/L was obtained.

With regard to chronic toxicity, the following reliable data was obtained: a 21-d NOEC of 0.91 µg/L for reproductive inhibition in the crustacean *D. magna*. No value for algae was obtained that could be used, but the chronic toxicity to the algae *Pseudokirchneriella subcapitata* were considered to be approximately the degree of solubility. Accordingly, an assessment coefficient of 100 was applied and a PNEC of 0.0091 µg/L was obtained.

The value of 0.0091 µg/L obtained from the chronic toxicity to the crustacean was used as the PNEC for this substance.

The PEC/PNEC ratio for both freshwater bodies and seawater was less than 0.005; accordingly, further work is considered unnecessary at this time.

Hazard Assessment (Basis for PNEC)			Assessment Coefficient	Predicted no effect concentration PNEC (µg/L)	Exposure Assessment		PEC/PNEC ratio	Judgment based on 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	0.0091	Freshwater	<0.000046	<0.005	○	○
					Seawater	<0.000046	<0.005		

4. Conclusions

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

[Risk judgments] ○: No need for further work ▲: Requiring information collection
 ■: Candidates for further work ×: Impossibility of risk characterization
 (○) : Although risk to human health could not be confirmed, collection of further information would not be required.
 (▲) : Further information collection would be required for risk characterization.