

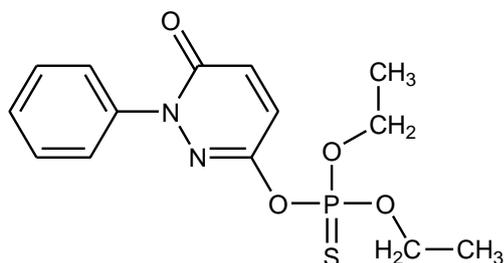
Chemical Substances Control Law Reference No.: 5-5598

PRTR Law Cabinet Order No.*: 2-58

Molecular Formula: C₁₄H₁₇N₂O₄PS

Molecular Weight: 340.33

Structural formula



*Note: No. in Revised Cabinet Order enacted on October 1, 2009

1. General information

The aqueous solubility of this substance is 100 mg/L (20°C), the partition coefficient (1-octanol/water) ($\log K_{ow}$) is 3.2, and the vapor pressure is 1.1×10^{-8} mmHg ($=1.47 \times 10^{-6}$ Pa) (25°C). Biodegradability (aerobic degradation) is limited, and bioaccumulation is not considered to be high. Its half-life for hydrolysis is 72 days (pH=5, 25°C), 46 days (pH=7, 25°C), 27 days (pH=9, 25°C), 19 days (distilled water, 25°C), and 7 days (natural water, 25°C).

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 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 main use was as a pesticide. Registration as an agricultural chemical expired on February 28, 2007. The production and import category under the PRTR Law is less than 1 t.

2. Exposure assessment

Total release to the environment in fiscal 2007 under the PRTR Law was 0.002 t, and all releases were unreported. Distribution in the environment by medium predicted by a multi-media model indicated a 92% distribution to water bodies when predictions were made for the areas where releases to the environment and soil were largest.

Registration of this substance as an agricultural chemical expired in February 2007 and the production quantity in 2007 was 0 t.

Total releases under the PRTR Law in fiscal 2007 were 0.002 t/y. Accordingly, the predicted environmental concentration (PEC) could not be set at present.

3. Initial assessment of ecological risk

With regard to acute toxicity, the following reliable data were obtained: a 72-h median effective concentration (EC₅₀) of more than 8,530 µg/L for growth inhibition in the green algae *Pseudokirchneriella subcapitata*; a 48-h EC₅₀ of 0.51 µg/L for swimming inhibition in the crustacean *Daphnia magna*; and a 96-h median lethal concentration (LC₅₀) of 7,500 µg/L for the fish species *Oncorhynchus mykiss* (rainbow trout). Accordingly, based on these acute toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) of 0.0051 µg/L was obtained.

With regard to chronic toxicity, the following reliable data were obtained: a 72-h no observed effect concentration (NOEC) of 3,650 µg/L for growth inhibition in the green algae *P. subcapitata*; and a 21-d NOEC of 0.46 µg/L for reproductive inhibition in the crustacean *D. magna*. Accordingly, based on these chronic toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) of 0.0046 µg/L was obtained. The value of 0.0046 µg/L obtained from the chronic toxicity to the crustacean was used as the PNEC for this substance.

A judgment on the ecological risk of this substance could not be made because the predicted environmental concentration (PEC) could not be set at present. An understanding of use trends, as well as trends in manufacturing and import quantities is required, as is collection of environmental concentration data.

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	100	0.0046	Freshwater	—	—	× (▲)
		Reproductive inhibition			Seawater	—	—	

4. Conclusions

	Conclusions	Judgment
Ecological risk	Judgment cannot be made at present regarding ecological risk. An understanding of use trends, as well as trends in manufacturing and import quantities is required, as is collection of environmental concentration data.	(▲)

[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.