7	CAS No.: 77458-01-6	Substance: Pyraclofos

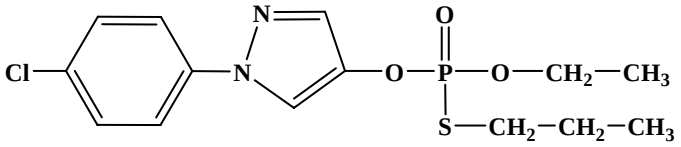
Chemical Substances Control Law Reference No.:

PRTR Law Cabinet Order No.: 1-183

Molecular Formula: $C_{14}H_{18}ClN_2O_3PS$

Molecular Weight: 360.80

Structural Formula:



1. General information

The aqueous solubility of this substance is 33 mg/L (20°C), and the partition coefficient (1-octanol / water) (log Kow) is 3.77. The vapor pressure is 1.20 x 10^{-8} mmHg (= 1.60 x 10^{-6} Pa) (20°C).

This substance is 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). Its primary uses and release sources are as an agricultural chemical (insecticide). Domestic production of agricultural chemical in 2003 was 51.6 tons, and export quantities came to 0.4 tons (both figures active ingredient -equivalent).

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2. Exposure assessment

Total release to the environment in FY2003 under the PRTR Law came to 30 tons, of which only 0.30 tons (or less than 1% of the total) was reported, so a very large quantity was estimated releases outside notification. All of the reported release was to public water bodies. Only agricultural chemical manufacturers reported high levels of release to public water bodies.

When estimated releases outside notification are included, release to the soil accounted for the greatest quantity of release to the environment. The distribution into the different media in the environment predicted by means of a multimedia model was 99.8 % for soil.

It was not possible to establish a predicted environmental concentration (PEC) that indicates exposure to aquatic organisms, as environmental concentrations have not been obtained.

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3. Initial assessment of ecological risk

With regard to acute toxicity, reliable information of a 72-hour LC_{50} value of 40 µg/L was found for the fish *Pollimyrus isidori* (Mormyridae). Accordingly, an assessment factor of 1,000 was used, and a predicted no effect concentration (PNEC) of 0.04 µg/L was obtained based on the acute toxicity values. As information could not be obtained for chronic toxicity, a value of 0.04 µg/L obtained from the acute toxicity for the fish was used as the PNEC for the substance.

As sufficient data on environmental concentrations to enable assessment have not been obtained at present, it was not possible to assess the ecological risk. Trends in production quantities, environmental release quantities, etc. should be monitored, and at the same time a study should be conducted to assess the need for determination of the environmental concentration.

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)		
Fish	Acute	LC_{50} Mortality	1,000	0.04	Freshwater	–	–	×
					Seawater	–	–	

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4. Conclusions

	Conclusions	Judgment
Ecological risk	Impossible of risk characterization. Trends in production quantities, environmental release quantities, etc. should be monitored, and at the same time a study should be conducted to assess the need for determination of the environmental concentration.	×

［Risk judgments］○: No need of further work ▲: Requiring information collection
■: Candidates for further work ×: Impossible of risk characterization