

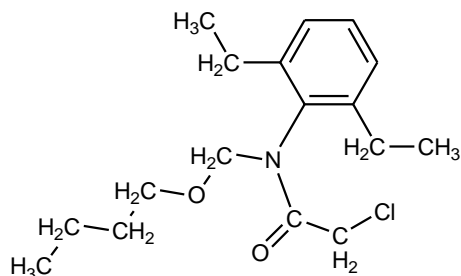
Chemical Substances Control Law Reference No.:

PRTR Law Cabinet Order No.*: 1-376

Molecular Formula: C₁₇H₂₆ClNO₂

Molecular Weight: 311.85

Structural formula:



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

1. General information

The aqueous solubility of this substance is 20 mg/L (20°C), the partition coefficient (1-octanol/water) (log K_{ow}) is 4.50, and the vapor pressure is 2.90×10⁻⁶ mmHg (=3.86×10⁻⁴ Pa) (25°C). The half-life in soil due to biodegradability (aerobic degradation) is 42–70 days. The substance is not hydrolyzable (25°C, pH=3, 6, 9).

This substance is a registered agricultural chemical under the Agricultural Chemicals Regulation Law and designated as 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). It is primarily utilized as a herbicide. The production and import category under the PRTR Law is ≥10 t.

2. Exposure assessment

Because this substance was not a Class 1 Designated Chemical Substance prior to revision of substances regulated by the 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 soil would be greater.

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

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 1.16 µg/L for growth inhibition in the green algae *Pseudokirchneriella subcapitata*; a 96-h median lethal concentration (LC₅₀) of 230µg/L for the Mysidae crustacean *Americamysis bahia*; and a 48-h LC₅₀ of 240 µg/L for the fish species *Ctenopharyngodon idullus*. Accordingly, based on these acute toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) 0.012 µg/L was obtained.

With regard to chronic toxicity, the following reliable data were obtained: a 72-h no observed effect concentration (NOEC) of 0.474 µg/L for growth inhibition in the green algae *P. subcapitata*; and a 21-d NOEC of 200 µg/L for reproductive inhibition in the crustacean *Daphnia magna*. Accordingly, based on these chronic toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) 0.0047 µg/L was obtained. The value of 0.0047 µg/L obtained from the chronic toxicity to the algae was used as the PNEC for this substance.

The PEC/PNEC ratio was less than 2 for both freshwater bodies and seawater, and for this reason, a judgment could not be made at present. To augment environmental concentration data, use trends, production and import quantities, and

releases to the environment for this substance should be considered where necessary.

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)		
Algae Green algae	Chronic	NOEC Growth inhibition	100	0.0047	Freshwater	<0.01	< 2	× (▲)
					Seawater	<0.01	< 2	

4. Conclusions

	Conclusions	Judgment
Ecological risk	Judgment could not be made at present regarding risk. To augment environmental concentration data, use trends, production and import quantities, and releases to the environment for this substance should be considered where necessary.	(▲)

[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.