5	CAS No.: 23950-58-5	Substance: Propyzamide

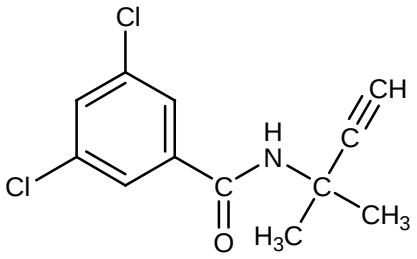
Chemical Substances Control Law Reference No.:

PRTR Law Cabinet Order No.: 1-122

Molecular Formula: $C_{12}H_{11}Cl_2NO$

Molecular Weight: 256.13

Structural Formula:



1. General information

The aqueous solubility of this substance is 15mg/L (25°C) and the partition coefficient (1-octanol / water) (log Kow) is 3.43±0.10. The vapor pressure is 8.5×10^{-5} mmHg (= 0.011 Pa) (25°C). This substance is degraded in soil through various biological and non-biological routes.

This substance has a target value for water quality management in tap water and is a Class 1 Designated Chemical Substance under the Law concerning Reporting, etc. of Release to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law). It is used primarily as a weed killer. Production of this substance in 2004 was 12.7 tons (estimated from the production of propizamide hydrate (the content of the original substance being 50%)).

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2. Exposure assessment

Total release to the environment in FY2004 under the PRTR Law came to 16 tons, all of which was outside notification.

When estimated releases outside notification are included, release to soil accounted for the all quantity of release to the environment. The distribution into each environment medium predicted by means of a multimedia model was 97.4% for soil, and 1.7% for water bodies in the case of the region where the estimated release quantity to the environment and soil was considered to be the maximum.

The predicted environmental concentration (PEC) that indicates exposure to aquatic organisms was estimated to be less than 5 μg/L for freshwater and approximately less than 0.8 μg/L for seawater public water bodies.

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3. Initial assessment of ecological risk

With regard to acute toxicity, reliable information of a 72-hour EC_{50} growth inhibition value of 3,440 μg/L was found for the algae *Pseudokirchneriella subcapitata*, a 48-hour EC_{50} immobilization value exceeding 10,000 μg/L was found for the crustacea *Daphnia magna* (water flea), and a 96-hour LC_{50} value exceeding 9,800 μg/L was found for the fish *Oryzias latipes* (medaka). Accordingly, an assessment factor of 100 was used, a predicted no effect concentration (PNEC) of 34 μg/L was obtained based on the acute toxicity values. With regard to chronic toxicity, reliable information of a 72-hour no observed effect concentration (NOEC) growth inhibition value of 320 μg/L was found for the algae *P. subcapitata*, and a 21-day NOEC reproduction value of 2,200 μg/L was found for the crustacea *D. magna*. So an assessment factor of 100 was used, and a PNEC value of 3.2 μg/L was obtained based on the chronic toxicity values. As the PNEC for the substance, a value of 3.2 μg/L obtained from the chronic toxicity for the algae was used.

The PEC/PNEC ratio was less than 2 for freshwater bodies and approximately less than 0.3 for seawater bodies. Accordingly, the ecological risk cannot be determined at this time. Because the primary use of this substance is an agricultural chemical (herbicide), there is thought to be need for the monitoring of the environmental concentration of this substance, considering the

profile of the actual release to the environment.

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)		
Algae (green algae)	Chronic	NOEC growth inhibition	100	3.2	Freshwater	< 5	< 2	×
					Seawater	< 0.8	< 0.3	

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4. Conclusions

	Conclusions	Judgment
Ecological risk	Impossible of risk characterization. There is thought to be need for the monitoring of the environmental concentration of this substance, considering the profile of the actual release to the environment.	×

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