1	CAS No: 95-55-6	Substance: *o*-aminophenol

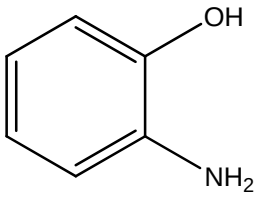
Chemical Substances Control Law Reference No.: 3-675（aminophenol）

PRTR Law Cabinet Order:

Molecular Formula: C_6H_7NO

Molecular Weight: 109.13

Structural formula:



1. General information

The aqueous solubility of this substance is 1.92×10^4 mg/1,000g (20°C), the partition coefficient (1-octanol/water) (log K_{ow}) is 0.62, and the vapor pressure is 5.01×10^{-4} mmHg (= 0.067 Pa) (25°C, calculated value). Biodegradability (aerobic degradation) is characterized by a BOD degradation rate of 18–27%. The substance does not have any hydrolyzable groups.

The main uses of this substance are as a dyestuff intermediate (azo mordant dyestuffs) and as a photographic chemical. The production and import quantity of aminophenol in fiscal 2012 was less than 1,000 t.

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2. Exposure assessment

Because this substance is not classified as a Class 1 Designated Chemical Substance under the Chemical Substances Control 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 generally 0.020 μg/L for public freshwater bodies and around 0.021 μg/L for seawater.

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3. Initial assessment of ecological risk

With regard to acute toxicity, the following reliable data were obtained: a 72-h EC_{50} of 150 μg/L for growth inhibition in the green alga *Pseudokirchneriella subcapitata*, a 48-h EC_{50} of 570 μg/L for swimming inhibition in the crustacean *Daphnia magna*, and a 96-h LC_{50} of 670 μg/L for the fish species *Oryzias latipes* (medaka). Accordingly, based on these acute toxicity values and an assessment factor of 100, a predicted no effect concentration (PNEC) of 1.5 μg/L was obtained.

With regard to chronic toxicity, the following reliable data was obtained: a 72-h NOEC of 1.8 μg/L for growth inhibition in the green alga *P. subcapitata*. Accordingly, based on this chronic toxicity value and an assessment factor of 100, a PNEC of 0.018 μg/L was obtained.

The value of 0.018 μg/L obtained from the chronic toxicity to the alga was used as the PNEC for this substance.

The PEC/PNEC ratio is 1.1 for freshwater bodies and 1.2 for seawater; accordingly, the substance is considered as a candidate for further work.

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)			
Green algae	Chronic	NOEC growth inhibition	100	0.018	Freshwater	0.020	1.1	■	■
					Seawater	0.021	1.2		

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4. Conclusions

	Conclusions	Judgment
Ecological risk	Candidates for further work	■

［Risk judgments］ ○: No need for further work ▲: Requiring information collection

■: Candidates for further work ×: Impossibility of risk characterization

（○）: Although risk characterization could not be confirmed, collection of further information would not be required.

（▲）: Further information collection would be required for risk characterization.