

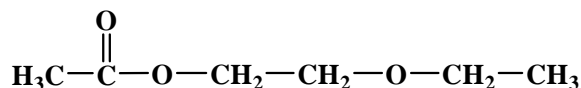
2	CAS No.: 111-15-9	Substance: 2-ethoxyethyl acetate
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Chemical Substances Control Law Reference No.: 2-740 (as ethylene glycol monoalkyl [C = 1 - 4] ether acetate ester)

PRTR Law Cabinet Order No.: 1-101

Molecular Formula: C₆H₁₂O₃ Structural Formula:

Molecular Weight: 132.16



1. General information

The aqueous solubility of this substance is 2.29 x 10⁵ mg/L (20°C), and the partition coefficient (1-octanol / water) (log Kow) is 0.24. The vapor pressure is 2.34 mmHg (= 312 Pa) (25°C). Degradability is good.

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). It is used primarily as a paint for metal products and furniture, as an ink solvent, etc. Domestic production in 2003 was 5,000 tons (estimated). Export and import quantities were 114 tons and 226 tons, respectively.

2. Exposure assessment

Total release to the environment in FY2003 under the PRTR Law came to approximately 840 tons, of which approximately 540 tons was reported. release to the atmosphere accounted for a large part of the reported release. In addition, approximately 220 tons was transferred as waste. Transportation equipment and Electrical machinery and equipment accounted for high levels of reported release to the atmosphere. Chemical Industry accounted for high levels of reported release to public water bodies.

When estimated releases outside notification are included, release to the atmosphere accounted for the greatest quantity of release to the environment. However, the release to the different media in the environment predicted by means of a multimedia model was 67.8% for water bodies and 25.7% for atmosphere.

The predicted environmental concentration (PEC) that indicates exposure to aquatic organisms was estimated to be less than 0.05 µg/L for freshwater and approximately 0.05 µg/L for seawater public water bodies.

3. Initial assessment of ecological risk

With regard to acute toxicity, reliable information of a 72-hour EC₅₀ growth inhibition value of more than 1,000,000 µg/L was found for the algae *Pseudokirchneriella subcapitata*, a 48-hour EC₅₀ immobilization value of 197,000 µg/L was found for the crustacea *Daphnia magna* (water flea), a 96-hour LC₅₀ value of 41,000 µg/L was found for the fish *Lepomis macrochirus* (bluegill), and a 96-hour LC₅₀ value of 65,200 µg/L was found for the shellfish *Aplexa hypnorum* (Physidae). Accordingly, an assessment factor of 100 was used, and a predicted no effect concentration (PNEC) of 410 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 more than 1,000,000 µg/L was found for the algae *P. subcapitata*, and a 21-day NOEC reproduction value of 44,400 µg/L was found for the crustacea *D. magna*. Accordingly, an assessment factor of 100 was used, and a predicted no effect concentration (PNEC) of 444 µg/L was obtained based on the chronic toxicity values. As the PNEC for the substance, a value of 410 µg/L obtained from the acute toxicity for the fish was used.

The PEC/PNEC ratio was less than 0.0001 for freshwater bodies and 0.0001 for seawater bodies. Accordingly, further work is thought to be unnecessary at this time.

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	100	410	Freshwater	< 0.05	< 0.0001	○
					Seawater	0.05	0.0001	

4. Conclusions

	Conclusions	Judgment
Ecological risk	No need of further work.	○

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