

RISK ASSESSMENT OF PESTICIDES TO AQUATIC ORGANISMS

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AQUATIC ORGANISMS

| [1] Adverse effects on aquatic and terrestrial living environment organisms in waters for evaluation of an active ingredient | Necessity | Condition |
|---|-----------|------------------------------|
| A) Fish acute toxicity | Y | |
| B) Acute immobilization on daphnids | Y | |
| C) Acute immobilization on daphnids (adults) | C | for mitigation |
| D) Adverse effects of coexistent organic substances on fish acute toxicity and daphnids acute immobilization | C | for mitigation |
| E) Acute immobilization on chironomid larvae | C | For insecticides |
| F) Acute toxicity on freshwater shrimps (<i>Paratya compressa compressa</i> and <i>Paratya compressa improvisa</i>) and amphipoda | C | for mitigation |
| G) Reproduction on daphnids | C | For insect growth regulators |
| H) Growth inhibition on algae and cyanobacteria | Y | |
| I) Growth inhibition on <i>Lemna</i> sp. | C | For herbicides |
| J) Derivation of predicted environmental concentration in water | Y | |

Y: necessary

C: Conditional requirement

TEST GUIDELINES

OECD Test No. 203: Fish, Acute Toxicity Test

OECD Test No. 202: Daphnia sp., Acute Immobilisation Test

OECD Test No. 235: Chironomus sp., Acute Immobilisation Test

OECD Test No. 211: Daphnia magna Reproduction Test

OECD Test No. 201: Freshwater Alga and Cyanobacteria, Growth Inhibition Test

OECD Test No. 221: Lemna sp. Growth Inhibition Test

For other studies: No. 26-Shouan-537

RISK ASSESSMENT FOR AQUATIC ORGANISMS

Application data

Rate: **1850** g ai/ha

Condition data

Method: Soil or **foliar**

Ground or air

Crop: fruits or **not-fruits**

Toxicity data, AEC and PEC

Risk assessment is conducted by the largest application rate. Application condition is set by selection of method of soil or foliar application, ground or air machinery, and fruits or non-fruits. AEC is calculated from acute toxicity data of fish, daphnia and algae, and compared to PEC. PEC should be lower than AEC. If not, higher tier studies are required to clear the criteria.

| Species | Exposure Hr | Toxicity | ppm | ppb | uncertainty factor | AEC(ppb) | PEC(ground) |
|---------|-------------|----------|-------|--------|--------------------|----------|-------------|
| fish | 96 | LC50 | 100.7 | 100700 | 10 | 10070 | 0.0291 |
| daphnia | 48 | EC50 | 100 | 100000 | 10 | 10000 | 0.0291 |
| algae | 72 | ErC50 | 100 | 100000 | 1 | 100000 | 0.0291 |