

## ENVIRONMENTAL RISK ASSESSMENT OF VIROCID (PT3)

### General Information

- **Use:** Virocid is a soluble concentrate (used at 0.5% v/v) for daily disinfection of vehicles for animal transport. A maximum of 0.4L of working solution is used per m<sup>2</sup>. A contact time of 30 minutes is respected and working solution is rinsed after use with water.
- **Biocidal category:** Product Type (PT) 3: Veterinary hygiene biocidal products.
- **Active substance (AS):** Benzalkonium chloride ADBAC (CAS N°68424-85-1) 17.06% w/w, Didecyltrimethylammonium chloride DDAC (CAS N°7173-51-5) 7.8% w/w, Glutaraldehyde (CAS N°111-30-8) 10.725% w/w.

### Description of emission scenarios

An Emission Scenario Document (ESD) describes the sources, pathways and use patterns with the aim of quantifying the emissions (or releases) of a chemical into water, air, soil and/or solid waste. In the ESD for PT3 [1], working solution may be discharged to the sewer system which is connected to a Sewage Treatment Plant (STP) of the farmhouse or the slaughterhouse (Route A). The working solution released in the sewer system may also join the manure/slurry system of the farmhouse (Route B). From STP, working solution may be released in the following compartments: surface water, sediments, soil (after sludge application), and groundwater (after leaching from the soil). After join the manure/slurry system, working solution may be released to the soil (application of manure), groundwater (via leaching), surface water and sediments. Mammals and birds may be exposed by secondary poisoning (aquatic and terrestrial food chains).

### Calculation

- **1<sup>st</sup> step:** estimation of the concentration of the active substance in a compartment according to the appropriate emission scenario (=Predicted Environmental Concentration (PEC)). A PEC is determined for each active substance, each target compartment and each scenario.
- **2<sup>nd</sup> step:** PEC is compared to the Predicted Non Effect concentration (PNEC). PNECs are found in the European Assessment Reports of each active [2, 3, 4]. PNECs are specific to an active substance and to each target compartment.

### Results

| Target compartment                                 | Ratio PEC/PNEC |      |                | Target result       |
|--|----------------|------|----------------|---------------------|
|  | ADBAC          | DDAC | Glutaraldehyde |                     |
| STP (Route A)                                      | <1             | <1   | <1             | <1: acceptable risk |
| Surface water (Route A+B)                          | <1             | <1   | <1             | <1: acceptable risk |
| Sediments (Route A+B)                              | <1             | <1   | <1             | <1: acceptable risk |
| Soil (Route A+B)                                   | <1             | <1   | <1             | <1: acceptable risk |
| Groundwater (Route A+B)                            | <1             | <1   | <1             | <1: acceptable risk |
| Secondary poisoning for mammals/ birds (Route A+B) | <1             | <1   | <1             | <1: acceptable risk |

### Conclusion

A ratio PEC/PNEC <1 indicates an acceptable risk for the target compartment. The use of Virocid (PT3) for disinfection of vehicles for animal transport is considered safe for environment regarding directions of use and current guidelines [1, 2, 3, 4, 5].

### Signature and date:

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[1] JRC Scientific and Technical Reports. Emission Scenario Document for Product Type 3 Veterinary hygiene biocidal products, 2011.

[2] Assessment report Alkyl(C12-16)dimethylbenzyl ammonium chloride Product-type 8 (Wood preservative). June 2015, Italy.

[3] Assessment report Didecyltrimethylammonium chloride Product-type 8 (Wood preservative). June 2015, Italy.

[4] Assessment report Glutaraldehyde Product-type 2, 3, 4, 6, 11, 12. 30.9.2014. eCA Finland.

[5] ECHA – Guidance on the Biocidal Products Regulation: Volume IV Environment – Assessment and Evaluation (Parts B+C) version 2.0, October 2017.