

Vehicle Disinfection Materials Compatibility

The importance of vehicle disinfection

The importance of disinfection for all vehicles associated with poultry and swine production cannot be stressed enough, as they provide an excellent vector through which disease can spread. This applies especially to livestock haul and feed vehicles, but also to any others visiting swine production facilities and farms.

Materials compatibility

Consideration must be given to the effects that a disinfectant formulation might have on the materials used in the construction of vehicles and trailer units associated with poultry and swine production.

EPA registered Virkon® S virucidal disinfectant can be used for your vehicle disinfection program.

Virkon® S has been evaluated by the United Kingdom's Motor Industry Research Association Ltd. (MIRA), the UK's official vehicle and testing body.

In MIRA's experiments, genuine vehicle components were exposed to a solution of Virkon® S at its recommended dilution for 1000 hours, which equates to approximately 3000 vehicle sprays. The tests concluded that Virkon® S showed "no significant long-term corrosive effects" on the common vehicle construction materials.

- **No significant long-term corrosive effects**
- **Broad Spectrum Efficacy**



Disinfectant solution materials compatibility study

An experimental study on the compatibility of disinfectant chemistries on metals used in the construction of vehicles & trailer units was conducted by LANXESS.

The study simulated the scenario of multiple disinfectant solution applications in a truck wash.

Metal coupons were weighed (weight recorded), hung vertically and sprayed with disinfectant solution. Each coupon was sprayed a total of 20 times, front and back. Excess disinfectant solution was allowed to run off and coupons air dried between each application. After 20 applications, the coupons were rinsed with clean water and dried in an oven at 50°C for 2 hours. Each coupon was then weighed once more to ascertain the overall percentage weight loss, compared to its original weight, attributed to the chemistry used in the disinfection process (see table overleaf).

Disinfectant Solution	Aluminum % weight loss	Galvanized Steel % weight loss	Carbon Steel % weight loss	Stainless Steel % weight loss	Magnesium Alloy % weight loss
H2O	0	0	0	0.02	0
H2O + 0.5% NaCl	0	0.04	0	0.08	0
H2O + 1% NaCl	1.22	0.22	0	0.11	0
Virkon® S 1:100*	0.17	0.40	0	0.22	0.17
Accel® 1:64 2oz/gal	0	0.43	0	0.26	0.18
Accel® 1:16 8oz/gal	0.05	0.36	0	0.20	0.16
Synergize™ 1:256 0.5oz/gal	0.21	0.27	0.21	0.21	0.19
Synergize™ 1:128 1oz/gal	0.22	0.22	0.25	0.25	0.18

Visual corrosion effect

As can be seen from the images, Virkon® S has a slightly less or equal corrosive effect to the test metal coupons, at a 1:100 dilution rate, when compared to the other disinfectant chemistries.

Discoloration was observed on carbon steel for Virkon® S, Sodium Chloride and Accel®; however, no weight loss was measured.

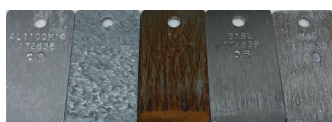
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Virkon® S 1:100 (1%)



Sodium Chloride 1:100



Synergize™ 1:256



Accel® 1:16



NB. A 1% in-use solution of Virkon® S is acidic; however, the effects on metals used in transportation are comparable to other disinfectant chemistries. Even road salt used during wintery weather conditions behave similarly.



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