

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 below).

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 (1%)	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