

Disinfectants appropriate for inactivation of FMD virus on footwear

DISINFECTANT	Usual form supplied	Recommended working strength (usual dilution)	Recommended working strength final concentration	Contact time for inactivation	Applications	Other	Health aspects
Virkon	powder	20g/L	2% (w/v)	10 minutes	Excellent disinfectant active against all viruses and bacteria	Expensive for large decontamination exercises, mildly corrosive for many metals	Reasonable care necessary, not approved for use on skin.
Citric Acid	powder	30g/L	3%	15 minutes for non-porous surfaces	Especially useful for FMDV contamination.		Safe for clothes and body decontamination.
Citric Acid	powder	30g/L	3%	30 minutes for porous surfaces		Used extensively during Victorian AI outbreak with no issues	Avoid contact with eyes and skin, wear protective eyewear while preparing the solution
Sodium carbonate-washing soda (Na ₂ CO ₃ .10H ₂ O)	crystals	100g/L	10% (w/v)	20 minutes	Efficacy is enhanced by addition of detergent. Useful against FMDV contamination	Better disinfectants are usually available for both viruses and bacteria. Avoid use with aluminium and like alloys.	Mildly caustic for eyes and skin. Not recommended
Sodium carbonate anhydrous (Na ₂ CO ₃)	powder	40g/L	4% (w/v)	20 minutes	Recommended for use in presence of high concentrations of organic matter.	Avoid use on aluminium and similar alloys	Caustic for eyes and skin, wear protective eyewear

Additional notes:

- Virkon is a modern disinfectant with outstanding virucidal and antibacterial properties. It is reported to have low toxicity and to be effective against all viruses tested (including members of all known viral families affecting animals), but it has not been approved for use on skin. It is relatively safe to use and comes in a powdered form ideal for dilution at the site of use. It is already available for use in airports.
- The advice in this table about concentrations and times is conservative and is intended to cover as many different emergency situations as possible. Temperature, the presence of organic materials, the nature of surfaces and other factors affect decontamination rates.
- Products effective for decontamination of viruses on the hands and the skin are limited. Virkon is reported to have low toxicity and to be effective against members of all virus families affecting animals, but it has not been approved for use on skin. Alternatively, citric acid or sodium carbonate may be added to washing water to induce antiviral conditions by lowering or raising the pH as appropriate for the agent to be inactivated.
- After adequate cleaning of the contaminated surface, the most critical factor is the time the disinfectant is in contact with the surface. For most applications, disinfectant must flood the surface and keep it thoroughly wet for at **least 10 minutes**.
- Foot baths are generally designed for enclosed footwear (boots, gumboots etc), so need options for travellers wearing open shoes (thongs, sandals)- mats may not be sufficient for this task as the preference would be to avoid skin contact.