

Application of Disinfectants by Spraying

Spraying can be defined as a method of dispersing small drops of, liquid for example, onto a surface by means of a piece of equipment designed for this purpose. The generated droplet size should be greater than 60 microns, anything smaller would be considered a mist or fog. Equipment designed to deliver droplet sizes smaller than 60 microns would include thermal or cold foggers and aerial misting systems.

There are several types of sprayer available for use with disinfectants e.g. hand-held trigger sprays, knap sack sprayers and garden sprayers. They all work on the same principle, applying liquids through a nozzle enabling a surface to be covered relatively quickly. Whether the surface is subsequently wiped or not will depend on the area/surface where the product is applied.

GUIDELINES

The European Chemicals Agency (ECHA) is an agency of the European Union which manages the technical and administrative aspects of the implementation of EU regulations including REACH, (Registration, Evaluation, Authorisation and Restriction of Chemicals), CLP (Classification, Labelling and Packaging) and BPR (Biocidal Products regulation). ECHA have produced guidelines for active substance approval and product authorisation submitted under BPR. The guidance documents include product type (PT) information and the recommended EN test methods to be used to support product claims.

The following PT's are applicable for Evans biocidal products:

PT1 Human hygiene biocidal products

PT2 Disinfectants and algaecides not intended for direct application to humans or animals

PT3 Veterinary hygiene and biocidal products

PT4 Food and feed area disinfection

Each product type details the application areas - PT1 e.g. hand disinfectants, PT2 e.g. hard surfaces

Tables or claim matrices are included in the guidance with details of how products are applied. The following are examples only, the list is not exhaustive.

PT2 hard surfaces: spraying, wiping, mopping, scrubbing, foaming, flooding

PT3 in veterinary areas: fogging, misting, spraying using low pressure

PT4 for hard surfaces: spraying, fogging, smoke, vapour, airborne diffusion, aerosol

TEST METHODS

EN disinfectant test methods are used to assess the effectiveness of a product against micro-organisms. There are 2 types of method, suspension and surface, usually both types of methods are used to assess a products efficacy. The techniques used mimic practical applications but under laboratory conditions. e.g. in a surface test the product is transferred to a dried inoculum to cover the test surface, copying the application of a sprayed product.

Examples of suspension tests: EN 1276, EN 1650, EN 1656, EN 13727

Examples of surface tests: EN 13697, EN 14349, EN 16615

APPLICATION OF DISINFECTANTS BY SPRAYING

Relevant log reductions must be achieved to claim effectiveness with a test method. This means a reduction in microbial numbers must be seen when compared to the number of organisms at the start of the test or, for surface tests, to a water control performed at the same time. As the numbers are exponential it is generally accepted that numbers are expressed as a logarithm. The reduction can be written as either a log value or a percentage i.e. a 5-log reduction is equivalent to a 99.999% reduction, a 3-log reduction is equivalent to 99.9% reduction. e.g. a surface with 1,000,000 bacteria which is treated with a product that kills 99.9% of bacteria would still have 1,000 bacteria remaining. If the surface was treated with a product that kills 99.999% of bacteria, only 10 bacteria would remain.

CONCLUSIONS

Spraying of disinfectants is an acceptable method of applying Evans Vanodine products to surfaces according to the ECHA guidelines.

Using the applicable EN suspension and surface test methods, will show products' effectiveness under specified conditions in-use and under simulated practical conditions, thereby supporting regulatory claims.

Evans Vanodine disinfectants have been tested against the applicable methods based on the claims made for BPR submission.

EXCEPTIONS FOR SPRAYING PRODUCTS

Spraying would not be recommended if it is not safe e.g. do not spray an alcohol-based product, Ensure, near an ignition source.

Any soft furnishings could be damaged by bleaching if hypochlorite products are used e.g. Bleach, Chlor tabs, Peroxy Disinfectant powder and Sanitise powder.

Electrical equipment is also at risk as all our disinfectant products are applied in aqueous solutions. Alternative applications would need to be used.

RISK ASSESSMENTS

As with all our products for professional use we would always recommend risk assessments are conducted before use.

Ensure the product meets your requirements and it can be safely sprayed for your intended application.



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