Virkon™ S
Safety of 1% Solutions

22.05.2019
Antec International Limited
A Company of the Lanxess Group
Windham Road
Chilton Industrial Estate
Sudbury
Suffolk
CO8 5BX
United Kingdom

Executive summary

Virkon™ S is intended to be used at concentrations of 1% or less in most situations, at which dilution rate the product is considered to be low hazard and safe for the intended uses as any hazards associated with the powder are diluted by a factor of at least 100X. 1% concentration (or lower) solutions of Virkon™ S are therefore not classified as hazardous according to the European system for hazard classification[1].

This document is intended to support your risk assessment and as a general guide on safe use of Virkon™ S working solutions (1% concentration or lower). As exposure potential varies greatly between users, use areas and application methods, individual risk assessments will need to be conducted that are specific to your conditions of use and in accordance with the relevant national or regional legislation. Always follow the instructions of your risk assessment when using the product.
This document is not intended as a safety data sheet as per the meaning within 1907/2006 (REACH).

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Table of contents

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1. Identification of the product and manufacturer

Product name: Virkon™ S (1% dilution in water)
Manufacturer: Antec International Limited – a company of the Lanxess-Group
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2. Hazard Classification

All information refers to diluted solutions of Virkon™ S at a concentration of 1% or lower in water, unless specified otherwise, and is made in accordance with European Regulation (EC) No 1272 /2008 on classification, labelling and packaging of substances and mixtures[1].

Hazard pictograms: None (not classified as dangerous)
Signal word: None
Hazard statements: None
Precautionary statements: None

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3. Basis for Hazard Classification

According to the European Regulation on classification, labelling and packaging of substances and mixtures (1272/2008 – CLP), 1% solutions of Virkon™ S are not classified as dangerous. The justification for this is summarised below.
Calculation methods referred to below are those described in the abovementioned CLP regulation.

3.1. Toxicological profile

Endpoint	Result	Justification
Skin irritation	Not irritating	Calculation method
Eye irritation	Not irritating	Calculation method and independent test data following OECD Test Guideline 405 (eye irritation)
Skin sensitisation	Not sensitising	Calculation method and independent test data following OECD Test Guideline 406 (skin sensitisation)
Acute oral toxicity	Not harmful	Independent test data according to OECD 401 for Virkon™ S **powder** demonstrating that the product has a low toxicity and therefore not harmful. Dilution to 1% will reduce the toxicity proportionally, to the extent that it is considered to be of very low toxicity
Acute dermal toxicity	Not harmful	Independent test data for Virkon™ S **powder** demonstrating that the product has a low toxicity and therefore not harmful. Dilution to 1% will reduce the toxicity proportionally, to the extent that it is considered to be of very low toxicity
Acute inhalation toxicity	Not harmful	Calculation method

3.2. Specific health effects

Endpoint	Result	Justification
Carcinogenicity	Negative	Formulation does not include any substances classified as carcinogenic within the meaning of EC/1272 /2008
Mutagencitity	Negative	Formulation does not include any substances classified as mutagenic within the meaning of EC/1272 /2008
Toxicity for reproduction	Negative	Formulation does not include any substances classified as teratogenic within the meaning of EC/1272 /2008

3.3. Physical and chemical effects

Endpoint	Result	Justification
Flammability	Negative	Formulation does not include any substances classified as flammable within the meaning of EC/1272 /2008
Oxidising	Negative	Testing on Virkon™ S POWDER according to method A17 of CD 92/69/EEC demonstrating that the product is not oxidising.

3.4. Ecological effects

Endpoint	Result	Justification
Aquatic toxicity	Not harmful	Testing on Virkon™ S POWDER demonstrates an aquatic toxicity within the range 1 – 100 mg/L. Taking the lowest concentration (daphnia) of 1 – 10 mg/L and account for the dilution of 100X for the 1% solution, this equates to a toxicity within the range of 100 – 1000 mg/L and is therefore not considered harmful
Degradability	Not persistent	Calculation method

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4. First Aid Advice

4.1. Human Exposure

Whilst the solutions will not cause skin/mucous membrane irritation and eye damage/irritation within the meaning of European Regulations on hazard classification, contact with eyes may cause discomfort and skin contact may lead to mild skin irritation in some cases and with sufficient contact. Therefore, where contact with skin or eyes is expected, skin coverings and eye protection are recommended.
When facing spray mists and aerosols of the diluted product, respiratory protection may also be required, depending on the extent of potential exposure.

4.2. First aid advice

Route of exposure	Potential symptoms	Response
Inhalation	Mild irritation, coughing	If irritation or discomfort occurs following inhalation, remove from exposure. Use PPE and/or ventilation
Ingestion	Upset stomach, nausea	Ingestion of the solution is unexpected as a route of exposure. In case of ingestion, give small quantities of water to drink. Stop of if the person feels sick. Seek medical attention
Skin contact	Mild irritation, reddening	In case of irritation flush skin with plenty of water
Eye contact	Irritation, watering, reddening, discomfort	Flush with water. If irritation persists, seek medical attention

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5. Fire-fighting measures

As an aqueous solution without any physical or chemical properties of concern to firefighting (e.g. flammability, oxidisation), contact of 1% Virkon™ S solutions will suppress any fire that it comes in contact with.

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6. Storage

Store unused solutions out of direct sunlight in loosely sealed containers. Prevent from contamination which could lead to a reduction in activity of the solution.

Prevent from contact with strong alkalis.

Do not leave in application equipment after use. Rinse thoroughly.

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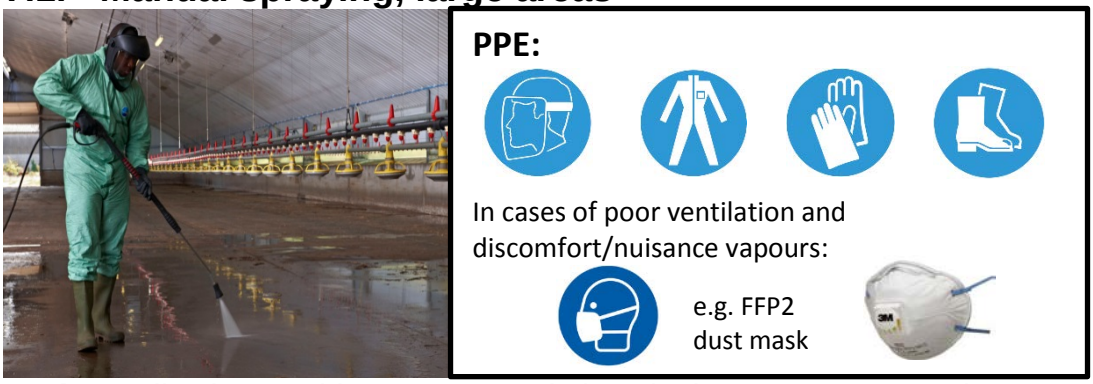
7. Personal Protection

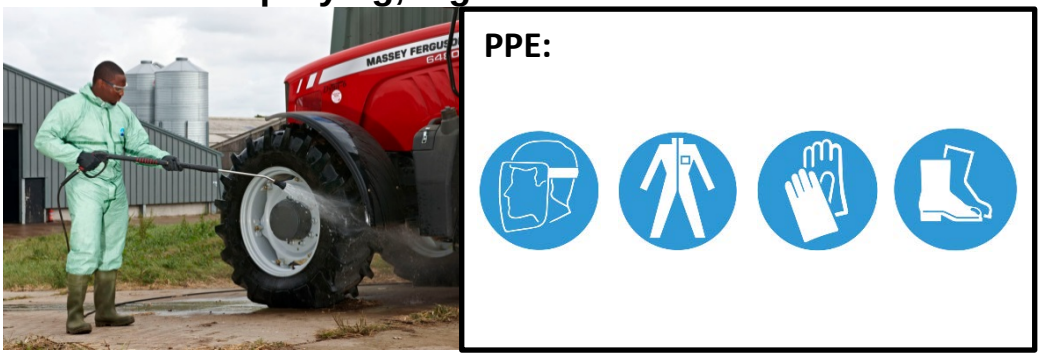
Below is a guide on typical personal protective equipment (PPE) for common tasks involving solutions of Virkon™ S at a concentration of 1% or less. Selection of appropriate PPE will depend on many factors, many of which are specific to your operation and area of use. As a result, the required PPE must be defined by your own risk assessment.

7.1. Manual spraying, large areas



Task: Application of Virkon™ S 1% solutions by low-pressure spraying to surfaces and equipment in LARGE livestock facilities using pressure washers and other hand-held equipment.

7.2. Manual spraying, high ventilation



Task: Application of Virkon™ S 1% solutions by low-pressure spraying to surfaces and equipment in well ventilated areas.

7.3. heavy spraying, large area

Task: Application of Virkon™ S 1% solutions by low-pressure spraying to surfaces and equipment in LARGE livestock facilities using vehicle mounted equipment. Open cab. Low/moderate ventilation.

7.4. Fogging/fine misting applications

Task: Application of Virkon™ S solutions by high-pressure spraying. Very fine droplet sizes (1-50 µm) and heavy misting/fogging. Normally within enclosed areas.

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8. Stability and Reactivity

The product is considered to be stable at normal temperature ranges within which it is used.

Avoid contact with alkalis, acids, halides and metal salts.

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9. Disposal Considerations

Virkon™ S solutions may generally be disposed of via drains leading to a foul sewer but not via drains leading to surface waters.
Disposal to foul sewer is typically subject to discharge consent with the appropriate local authority and normally requires prior approval and control of the volumes discharged.
Always seek guidance from your local authority prior to discharge.
Note: Virkon™ S is generally considered to be of low risk to municipal sewage treatment facilities and data can be provided in support of any discharge consent procedures.
In general, the risk will often be negligible if relatively low volumes e.g. a few litres of solution is disposed of periodically into slurry or sewage in most cases, but each individual instance will also depend on other factors, such as the local authority guidelines, the volumes employed, the frequency of disposal and the capacity of the treatment plant.
As a result, disposal should be made according to your site's risk assessment.

Data can be supplied upon request to support any discharge consent applications.

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References:

1. European Union Regulation (EC) No 1272 /2008 on classification, labelling and packaging of substances and mixtures