



## Virusolve<sup>®</sup> + RTU

# Specialized Cleaning and High Level Disinfecting Fluid

## Technical Information

### Description & Application:

Virusolve+ is a complex blend containing the latest dodecylamine based structures, solvents and fully non-toxic, biodegradable detergent. The formulation does not contain any hazardous aldehydes or chlorine generating components.

The formulation is highly effective as a cleaner and terminal high level disinfectant (HLD) against bacteria, bacterial spores, fungi and viruses. The product is designed to eliminate the risk of cross-infection from viruses, fungi and bacteria. Virusolve+ does not simply render the microorganisms inert but has been demonstrated to kill these by disrupting the RNA of the microorganisms.

It is safe to use on any surface and is odourless and colourless.

Virusolve+ is available for supply as a concentrate – fragrant and non-fragrant (this data sheet), as a Ready-to-Use (RTU) solution and as an impregnated wipe. The Concentrate products are described fully in separate Technical Data Sheets (TDS).

Primary features attributable to Virusolve+ RTU are:

- Suitable for high level disinfection and cleaning, contains powerful germicides;
- Low toxicity, does not contain chlorine or aldehyde compounds;
- Highly effective over a wide range of viruses, bacteria, fungi, yeasts and moulds, including MRSA, Hepatitis B and HIV agents;
- Highly effective against bacterial spores;
- Effective against the difficult non-enveloped type viruses such as Polio, Adenovirus and Norovirus;
- Non-selective;
- Versatile, simple to use and cost effective;
- Approved by accredited laboratories.

### Applications

Virusolve+ RTU is ideal for removing biohazards in hospitals, health centres, dentists, vets, nursing homes, laboratories, food preparation areas and any environment where the risk of cross-infection needs to be eliminated, e.g. cruise ships.

Virusolve+ RTU is suited for cleaning and disinfection of hard surfaces, walls, floors, glasswork and contaminated laundry.

It can also be used to disinfect medical and surgical instrumentation.

It can also be used to disinfect hairdressing equipment.



Certificate No. GB06/69741



Certificate No. GB06/69740

CE  
1639

Certificate No.  
GB19/964425

**Infection  
Controlled**

## **Compatibility**

Virusolve+ RTU is compatible with a wide range of fabrics, rubbers, plastics and hard surface materials when diluted to normal working strength.

## **Order Information**

Virusolve+ concentrate can be made available as a fragrant grade when requested.

4 versions are currently available to order:

- Lavender version      order code - L
- Lemon version        order code - LE
- Orchid version        order code - O
- Pine version          order code - P

Users should specify the required fragrance at time of order otherwise the non-fragrant version will be supplied. MOQs apply.

## **Health and Safety**

Virusolve+ is not flammable and is neither a known or suspected carcinogen, is non-hypoallergenic, and is fully biodegradable.

Virusolve+ is classed as Corrosive to skin and eyes in the concentrate form but is non-hazardous when diluted to normal working strength and used according to the specified user directions.

Virusolve+ is intended for external use only.

Virusolve+ RTU can be safely used in contact with skin and is classed as being non-hazardous to human health.

See Safety Data Sheets for details.

## **Typical Properties**

Appearance	Pale straw coloured liquid
Odour	Slight amine (fishy) odour
pH,	11.3 units (neat)
Density, g/cm <sup>3</sup> @ 20 °C	1.02 (neat)
Solubility in water	Complete
Flash Point (Abel closed cup)	None

### **Shelf Life of RTU**

4 years in unopened original containers when stored between 5 °C and 35 °C out of direct sunlight.

Virusolve+ in contrast to other disinfectants is capable of penetrating the outer membranes of the bacteria and viruses and as a result renders the genome material within the cell inactive. This is in contrast to other disinfectants in the marketplace that are composed of chemicals that may well inactivate the cells for a period of time, preventing growth, but after a period the cells will regenerate and multiply.

Virusolve+ will inactivate the cell to the point where the RNA is destroyed and therefore preventing replication.

Virusolve+ will also attack all single strand transcriptase positive and transcriptase negative viruses within similar families.

Virusolve+ has been thoroughly tested by independent laboratories and demonstrated to be effective against gram negative and gram positive bacteria, viruses and fungi/yeasts.

Efficacy data has been raised against the following specific organisms:

Bacteria:

- Acinetobacter calcoaceticus
- Acinetobacter baumannii

Bacillus stearothermophilus  
 Bacillus cereus  
 Campylobacter jejuni  
 Clostridium difficile  
 Clostridium perfringens  
 Enterobacter sakazakii  
 Enterococcus hirae  
 Enterococcus faecalis Vancomycin Resistant (VRE)  
 Escherichia coli  
 Escherichia coli ESBL (Extended Spectrum beta-Lactamases)  
 Escherichia coli - O157 Strain  
 Klebsiella pneumonia  
 Legionella pneumophila (Sero Group 1)  
 Listeria monocytogenes  
 Methicillin resistant Staphylococcus aureus (MRSA)  
 Pseudomonas aeruginosa  
 Salmonella typhimurium  
 Serratia marsescens  
 Shigella sonnei  
 Stenotrophomonas maltophilia  
 Staphylococcus aureus  
 Vibrio parahaemolyticus  
 Yersinia enterocolitica

Mycobacterium terrae (Note – has been used for testing against TB)  
 Mycobacterium tuberculosis  
 Mycobacterium avium

Viruses: -

Avian flu (Bird Flu – Strain H5N1)  
 Hepatitis B and C  
 HIV-1 virus  
 Influenza virus (Strain H3N2)  
 Parainfluenzae 3 virus,  
 Polio virus  
 Vaccinia virus,  
 Feline Calicivirus (Human norovirus surrogate)  
 Feline Coronavirus (human surrogate for SARS)  
 Adenovirus

Spores:-

Bacillus cereus  
 Bacillus subtilis  
 Clostridium difficile  
 Clostridium perfringens

Fungi and Yeasts: -

Aspergillus niger  
 Aspergillus fumigatus  
 Candida albicans  
 Microsporum canis  
 Microsporum gypseum  
 Trichophyton equinum  
 Trichophyton mentographytes

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## **Directions for Use**

Virusolve+ RTU product does not require dilution prior to use.

**Application:**

**Medical Devices****For Manual Disinfection of instruments and equipment:****Stage 1:**

Put on PPE and wash medical device carefully in an Enzymatic cleaner and rinse

Note: The enzymatic cleaner recommended by Amity is as follows:

- Dismantle (and subsequently reassemble) the device, if necessary
- For automated processes use either Viruzyme, Viruzyme N or for the most arduous cleaning use Duo system
- For manual cleaning use Viruzyme III

**Make Virusolve+ solution at 1:20 (5%) or 50ml per litre****Stage 2:**

Instruments and devices that are non-autoclavable, particularly those that are heat-sensitive or delicate in nature (flexible and rigid endoscopes, etc.), require disinfection with specially designed chemical alternatives like Virusolve+ instrument disinfectant

Virusolve+ RTU (High Level Instrument Disinfectant) is recommended for use, as follows: -

- Make sure that instrument has been thoroughly cleaned (see STAGE ONE above)
- Soak for 5 - 10 minutes making sure that all internal channels are flushed through. This ensures bactericidal, fungicidal, virucidal, mycobactericidal and sporicidal performance is attained.

**Note:** Ensure that all spaces and recesses are completely filled with Virusolve+ fluid and no air pockets exist

- Rinse in sterile water and dry with sterile material
- The medical device is now ready for use

**Changing from an Aldehyde based disinfectant (Glutaraldehyde and OPA) to Virusolve+**

The aldehyde will be absorbed into the walls of all plastics including flexible endoscopes and if no pre-treatment is carried out there will be a chemical reaction which can cause discolouration.

To prevent this Amity would recommend to soak all plastic instruments, syringing tubes, connection tubes, flexible endoscopes etc in a solution of Viruzyme III diluted to 1% (10ml/litre) for a minimum time of 3-4 hours but this could be extended to an overnight soak. Then rinse thoroughly.

This should eliminate 99% of the possible reaction occurring.

**Non-immersible Medical Devices and Equipment**

- Apply the Virusolve+ RTU solution onto a low lint cloth and wipe the relevant medical device or equipment ensuring the full surface of the device remains wet for at least 1 minute (ILD) or 5 minutes (HLD).
- Rinse the surface of the medical device with a damp cloth of water.

**For non-critical medical devices:**

- Inspect device / instrument.
- Wipe thoroughly with Virusolve+ Wipes (see separate TDS) and repeat using fresh wipe(s).
- Allow to air dry
- Place in suitable holder until required for use

For maximum effectiveness, the Virusolve+ RTU solution should be replaced every 14 days or when the measured strength falls below the recommended 5% level or if any signs of gross soiling of the solution is present.

**General Surface Cleaning and Healthcare Environment:**

**For Intermediate Level Disinfection: Dilute Virusolve+ to 10% with water (100ml per litre) at 20°C with a 15 minutes contact time.**

**For High Level Disinfection: Use Virusolve+ RTU as supplied at 20°C**

Dispense / Spray (DO NOT MIST) Virusolve+ RTU solution directly onto the surface to be treated and wipe gently over the whole area with a clean low lint cloth.

Allow a minimum contact time of 1 minute before wiping clean or brushing to remove grease, blood and organic debris. Removal of stubborn deposits may be assisted by the use of a stiff bristle brush.

Rinse treated surface with clean water if required.

## **Food Sector**

### **Food Preparation Surfaces**

**For Intermediate Level Disinfection: Dilute Virusolve+ to 10% with water (100ml per litre) at 20°C with a 15 minutes contact time.**

**For High Level Disinfection: Use Virusolve+ RTU as supplied at 20°C**

Dispense / Spray (DO NOT MIST) Virusolve+ RTU solution directly onto the surface to be treated and wipe gently over the whole area with a clean low lint cloth.

Allow a minimum contact time of 1 minute before wiping clean or brushing to remove grease, blood and organic debris. Removal of stubborn deposits may be assisted by the use of a stiff bristle brush.

Rinse treated surface with clean water if required.

Note: Food preparation surfaces should be allowed to dry before use.

### **COP (Clean Out of Place)**

Instruments and devices that require disinfection with specially designed chemical alternatives like Virusolve+

Virusolve+ is recommended for use, as follows:

**For Intermediate Level Disinfection: Dilute Virusolve+ to 10% with water (100ml per litre) at 20°C with a 15 minutes contact time.**

**For High Level Disinfection: Use Virusolve+ RTU as supplied at 20°C**

- Make sure that instrument has been thoroughly cleaned
- Soak for 5 - 10 minutes in the diluted Virusolve+ solution, making sure that all internal channels are flushed through. This ensures bactericidal, fungicidal, virucidal, mycobactericidal and sporicidal performance is achieved  
**Note:** Ensure that all spaces and recesses are completely filled with Virusolve+ fluid and no air pockets exist
- Rinse in sterile, Deionised (DI) or Reverse Osmosis (RO) water and dry

### **CIP (Clean In Place)**

**For Intermediate Level Disinfection: Dilute Virusolve+ to 10% with water (100ml per litre) at 20°C with a 15 minutes contact time.**

- Flush for 30 minutes making sure that all internal channels are flushed through.
- Ensure that all spaces and recesses are completely filled with Virusolve+ fluid and no air pockets exist
- Rinse is optional
- Allow to dry

**CONTACT DETAILS:****For UK and Rest of the World:**

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For any further information, please contact your distributor or Amity.

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**Packaging Details:**

**Virusolve+** is available in the following packaging.  
 Users will need to specify requirements on their order.

	5 L Container	25 L Container	210 L Drum	1000 L IBC Container
Virusolve+ RTU	✓	✓	✓ (2)	✓ (2)
Virusolve+ RTU Lavender	✓(1)	✓(1)		
Virusolve+ RTU Lemon	✓(1)	✓(1)		
Virusolve+ RTU Orchid	✓(1)	✓(1)		
Virusolve+ RTU Pine	✓(1)	✓(1)		

(1) Minimum order quantity (MOQ) applies

(2) Available on special request only

## **Approval and Test Data for Virusolve+**

### **1. Approvals.**

- 1.1 Virusolve+ has been satisfactorily tested by leading laboratories for viral, bacterial and fungi testing.
- Micropathology Ltd, Coventry;
  - H.I.R.L (Hospital Infection Research Laboratory) City Hospital Birmingham
  - Bodycote Materials Testing, Law Laboratories, Birmingham.
  - Texcell Laboratory (Part of Institute Pasteur®), Paris, France
  - Health Protection Agency, UK.
  - Retroscreen Virology Ltd (Queen Mary Hospital, University of London)
- 1.2 Virusolve+ has been satisfactorily tested as a disinfectant and approval granted by the UK Department for Environment, Food and Rural Affairs (DEFRA) for the following:
- General Orders, as defined in the Diseases of Animals (Approved Disinfectant) Order 1978 at a dilution of 1 part disinfectant to 19 parts of water.
  - The Disease of Poultry Order and The Avian Influenza and Influenza of Avian Origin in Mammals Order at a dilution rate of 1 part disinfectant to 9 parts of water.
- 1.3 Virusolve+ has been satisfactorily tested as an Intermediate Level disinfectant against Tuberculosis at a dilution of 0.25% following a contact time of 15 minutes.

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### **2. Test compliance**

- 2.1 Testing carried out according to; BS6471, BS6424, BS6905, EN 1275, EN 1276, EN 1650, EN 13727(2003), EN 13697, EN 14347, EN 14348, EN 14561, EN 14562, EN 14563, EN 14476 and AFNOR (EC) procedures.
- 2.2 Virusolve+ has been tested for bactericidal efficacy according to BS EN 1276 (European Suspension Test) and demonstrates a > log 5 reduction in counts at 20 °C for all three time intervals selected.
- 2.3 Basic fungicidal and yeastical activity tested in accordance with BS EN 1275 (European Suspension Test) and demonstrates a > log 5 reduction in counts at 20 °C after 1, 2 and 5 minute contact times.
- 2.4 Sporocidal Efficacy tested in accordance with BS EN 14347 and achieved >5 log 10 reduction in all test organisms for all contact times down to 1 minute.
- 2.5 Sporocidal Efficacy tested in accordance with BS EN 13704 and achieves a >3 log 10 reduction in all test organisms for all contact times down to 1 minute.
- 2.6 Virucidal activity tested according to norm NFT 72-180 and passes requirement (> 4 log 10 reduction at 1 minute exposure).
- 2.7 Bactericidal Efficacy for disinfection of medical instruments tested in accordance with BS EN 13727 and achieved >5 log 10 reduction in all test organisms.
- 2.8 Bactericidal and Fungicidal Efficacy in food, industrial and institutional areas tested in accordance with BS EN 13697 and achieved >5 log 10 reduction within a 5 minute contact time.
- 2.9 Complies with BS ISO 4120:2004, food taint test.
- 2.10 Feline calicivirus (Human norovirus surrogate), polio virus and adenovirus tests carried out in accordance with test standards EN 14476.
- 2.11 Bactericidal efficacy against Mycobacterium tuberculosis established using BS EN 14348.
- 2.12 Bactericidal efficacy against Mycobacterium tuberculosis following a contact time of 15 minutes and at a dilution concentration of 0.25% established.