Virkon® S Disinfectant and Virucide:

- For use in cleaning and disinfecting industrial, animal and agricultural facilities
- Powder Form
- Effective against Viruses*, Bacteria, and Fungi

**ACTIVE INGREDIENTS**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium peroxymonosulfate</td>
<td>21.41%</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>1.50%</td>
</tr>
<tr>
<td><strong>TOTAL INGREDIENTS</strong></td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Equivalent to 9.75% Available Chlorine

**Hazard Statements**

- **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER.** Powder is Corrosive. Causes irreversible eye damage or skin burns. Harmful if swallowed or absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear goggles (or face shield). Wear protective clothing (long sleeve shirt and long pants, socks plus shoes and chemical resistant gloves such as water proof gloves). Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**ENVIRONMENTAL HAZARDS:** Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**STORAGE AND DISPOSAL**

- **PESTICIDE STORAGE:** Store out of reach of children.

- **CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**FIRST AID**

- **IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

- **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 – 20 minutes. Call a poison control center or doctor for treatment advice.

- **IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

For 24-hour emergency information on this product, call 1-800-441-3637 (US & Canada) or 1-302-774-1139 (all other areas).

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.
BROAD SPECTRUM DISINFECTANT

Virkon®S Disinfectant and Virucide* is effective against numerous microorganisms affecting animals: viruses*, gram positive and gram negative bacteria, fungi (molds and yeasts – Not Approved for this use in California), and mycoplasma. Efficacy of the 1% solution against bacteria and viruses* was determined in the presence of 400 ppm [200 ppm in California] AOAC hard water and 5% organic material in most cases. The exceptions are noted with qualifiers, e.g., “no hard water,” “no soil load,” and “use 2% solution.”

EFFECTIVE AGAINST THE FOLLOWING PATHOGENS:

ANIMAL AND ZOONOTIC PATHOGENS

BACTERIA
Actinobacillus pleuropneumoniae
Bacillus cereus
Brucella abortus
Campylobacter jejuni
Clostridium perfringens
Dermatophilus congolensis
Escherichia coli
Klebsiella pneumoniae
Mycoplasma gallisepticum
Pasteurella multocida
Pseudomonas aeruginosa
Salmonella enterica
Salmonella typhimurium
Shigella sonnei
Staphylococcus aureus
Staphylococcus epidermidis
Streptococcus pyogenes
Streptococcus suis
Not approved in California for use against the following bacteria:
Bordetella avium
Bordetella bronchiseptica
Fistulous withers (Poll Evil)
Haemophilus somnis
Helicobacter pylori
Listeria monocytogenes
Moraxella bovis (Pink Eye)
Mycoplasma hyopneumonia
Mycoplasma mycoides
Pseudomonas mallei (Glanders)
Pseudomonas vulgaris
Streptococcus equi (Glanders)
Treponema equigenitalis
Treponema hydysenteriae

VIRUSES
Avian Influenza Virus
Avian Laryngotracheitis Virus
Bovine Adenovirus Type 4
Canine Adenovirus (Canine Hepatitis)
Canine Parvovirus
Equine Herpes Virus (Type 1)
Equine Herpes Virus (Type 3)
Equine Influenza Virus (Type A)
Feline Calicivirus
Feline Panleukopenia Virus
Feline Rhinotracheitis Virus
Newcastle Disease Virus
Simian virus (SV40 Virus)
Not approved in California for use against the following viruses:
Adenovirus Pneumonia
African Horse Sickness Virus
African Swine Fever Virus (tested with 1% soil load and 342 ppm hard water)
Bovine Polyoma Virus
Bovine Pseudocowpox Virus
Bovine Viral Diarrhea Virus (no hard water)
Calf Rotavirus (no hard water)
Canine Coronavirus
Canine Parainfluenza Virus
Chicken Anemia Virus
Coital Exantherma Virus
Distemper Virus
Duck Adenovirus (no hard water)
Duck Enteritis Virus
Egg Drop Syndrome Adenovirus
Equine Infectious Anemia Virus (Swamp Fever)

FUNGUS
Trichophyton mentagrophytes (2%)
Not approved in California for use against the following fungi:
Aspergillus fumigatus
Fusarium moniliforme
Microsporum canis
Trichophyton spp. (Ringworm)
Trichophyton spp. (Mud Fever)

VIRKON’S DISINFECTANT AND VIRUCIDE* DILUTION CHART

Fill container with desired amount of water and add Virkon®S Disinfectant and Virucide* to achieve recommended solution concentration.

Solutions are stable for 7 days. Do not soak metal objects in Virkon®S Disinfectant and Virucide* for long periods - 10 minutes is maximum necessary contact time. One gallon of solution is sufficient to treat 135 sq. ft.

Measuring cup provided.

<table>
<thead>
<tr>
<th>Quantity of Water</th>
<th>0.5% Solution*</th>
<th>1% Solution</th>
<th>2% Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Quart</td>
<td>0.15 ounces*</td>
<td>0.3 ounces</td>
<td>0.7 ounces</td>
</tr>
<tr>
<td>1 Gallon</td>
<td>0.65 ounces*</td>
<td>1.3 ounces</td>
<td>2.7 ounces</td>
</tr>
<tr>
<td>10 Gallons</td>
<td>6.7 ounces*</td>
<td>13.4 ounces</td>
<td>26.7 ounces</td>
</tr>
<tr>
<td>50 Gallons</td>
<td>33.4 ounces*</td>
<td>66.8 ounces</td>
<td>133.5 ounces</td>
</tr>
</tbody>
</table>

*The 0.5% solution currently is not approved for use in California.
**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

**GENERAL INSTRUCTIONS – POULTRY AND FARM PREMISES**

1. Remove all poultry or other animals and feeds from premises, trucks or other vehicles, coops, crates or other enclosures.
2. Remove all litter droppings and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other facilities and fixtures occupied or traversed by poultry or other animals.
3. Empty all troughs, racks, and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Saturate surfaces with the recommended disinfecting solution for a period of 10 minutes.
6. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure.
7. Ventilate buildings, cars, boats, coops, and other closed spaces. Do not house poultry or livestock or employ equipment until treatment has been absorbed, set, or dried.
8. Thoroughly scrub treated feed racks, mangers, troughs, automatic feeders, fountains, and waterers with soap or detergent, and rinse with potable water before reuse.

This powder formulation is easily diluted for use in manual or machine operations.

**POULTRY AND RATITE PRODUCTION CONTROLS:** Viruses of Newcastle Disease, Avian Laryngotracheitis and Avian Influenza; Bacteria of Streptococcus pyogenes, Klebsiella pneumoniae, Escherichia coli, Salmonella typhimurium, Salmonella choleraesuis, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis and Mycoplasma gallisepticum. Not approved in California for use against the following organisms: Viruses of Infectious Bursal Disease, Infectious Bronchitis Virus, Marek’s Disease, Egg Drop Syndrome, Turkey Herpes Virus, Duck Viral Enteritis; FUNGI (molds and yeasts – Not Approved for this use in California), Fungi of Aspergillus fumigatus and Bacteria of Bordetella avium, Helicobacter pylori.

**HATCHERIES:** Virkon®S Disinfectant and Virucide* at 1% solution can be used for cleaning and disinfecting hatchers, setters, evaporative coolers, humidifying systems, ceiling fans, chicken houses, transfer trucks, trays, and plastic chick boxes.

**BROILER/BREEDER HOUSES:** Follow General Instructions to remove poultry and preclean area to be treated. Spray floors and walls with Virkon®S Disinfectant and Virucide* at 1% solution. Thoroughly wash waterers and feeders with a 1% solution of Virkon®S Disinfectant and Virucide*. After contact for 10 minutes, rinse with water. Do not house poultry or use equipment until treatment has dried.

**FOR AIR SANITIZING:** Not approved for this use in California: Use Virkon®S Disinfectant and Virucide* at 0.5-1% solution, and fog until surfaces are moist. Allow at least 2 hours before entering treated area. Rinse foggers and sprayers with water following use.

**PROCESSING PLANTS:** Spray Virkon®S Disinfectant and Virucide* at 1% solution to disinfect and clean walls, ceilings and floors.

**SWINE PRODUCTION CONTROLS:** Bacteria of Actinobacillus Pleuropneumoniae and Clostridium perfringens; Fungi of Trichophyton mentagrophytes (2%). Not approved in California for use against the following organisms: Viruses of Hog Cholera, Swine influenza, Porcine Parvovirus, Porcine Reproductive and Respiratory Syndrome Virus (PRRS); Pseudorabies, Rotaviral Diarrhea, African Swine Fever, Fungi of Fusarium moniliforme Foot and Mouth Disease and Bacteria of Treponema hyodysenteriae.

Follow General Instructions to remove swine and preclean area to be treated. Virkon®S Disinfectant and Virucide* at 1% solution is recommended for cleaning and disinfecting farrowing units, nurseries, finisher houses, processing plants, and agricultural production equipment such as trucks, waterproof footwear (such as rubber boots), and associated livestock equipment and instruments.

Virkon®S Disinfectant and Virucide* at 0.5-1% solution is recommended for use in fogging (wet misting) operations or as a supplemental measure either before or after regular cleaning and disinfecting procedures. Not approved in California for fogging at dilutions less than 1%. Fog (wet mist) until the area is moist using automatic foggers according to manufacturer’s use directions. Rinse foggers and sprayers with water following use.
EQUINE PRODUCTION

BROAD SPECTRUM EQUINE DISINFECTANT/DETERGENT/WASH FOR CLEANING AND DISINFECTING STABLES, EQUIPMENT, AND AERIAL DISINFECTION

CONTROLS: Viruses of Equine herpes virus Type 1 and Type 3 and Equine Influenza. Bacteria of Brucella abortus, Clostridium perfringens, Dermatophilus congolensis (at 2%), Pseudomonas aeruginosa, Salmonella typhimurium and Staphylococcus aureus. Fungi of Trichophyton mentagrophytes (at 2%) Not approved in California for use against the following organisms: Fungi of Fusarium moniliforme. Viruses of African Horse Sickness, Equine Viral Arteritis (Pink Eye), Coital Exantherma, Equine Contagious Abortion, Equine Papillomatosis, Equine Infectious anemia (Swamp Fever), Adenovirus Pneumonia, Equine Influenza (The Cough), Fistulous Withers (Poll Evil), Taylorella equigenitalis, Bordetella bronchiseptica, Streptococcus equi (Strangles) and Pseudomonas mallei (Glanders); Fungi of Dermatophytosis (Ringworm) and Dermatophyllosis (Mud Fever).

APPLICATIONS: For cleaning and disinfecting all surfaces, equipment, utensils and instruments in Veterinary practices, kennels, stables, catteries, etc.

USES: Stables, Horse Boxes, Box Stalls, Tack, Equipment, and Feed Rooms: Thoroughly clean and dry [dry clean] surfaces, then wash the area manually or with pressure washer with a 1% Virkon® S Disinfectant and Virucide* solution. Rinse with clean water.

Blankets, Saddle Pads and Rugs: Not an approved use in California: Shampoo by hand or spray lightly with a hand-sprayer and leave to dry. Shake or vacuum to remove residue.

Aerial Spraying to control airborne diseases: Not an approved use in California: Use a hand or knapsack sprayer with fine setting, or an automatic spraying system. Spray a 1% Virkon® S Disinfectant and Virucide* solution for 2-3 minutes twice daily, first thing in the morning and last thing at night. Rinse sprayers with water after use.

BOVINE PRODUCTION

CONTROLS: Bovine Adenovirus Type 4; Fungi of Trichophyton mentagrophytes(2%). Not approved in California for use against the following organisms: Bacteria of Moraxella bovis, Fungi of Fusarium moniliforme. Viruses of Calf rotavirus, Infectious Bovine Rhinotracheitis, Pseudorabies, Foot and Mouth Disease and Bacteria of Haemophilus somnus.

Follow General Instructions to remove livestock and preclean area to be treated. A 1% solution of Virkon® S Disinfectant and Virucide* is recommended to clean and disinfect areas associated with bovine housing stabling, hospital quarantine pens, feedlot facilities, and agricultural production equipment: such as trucks, water-proof footwear (such as rubber boots), and associated livestock equipment and instruments.

COMPANION ANIMALS

CONTROLS: Viruses of Canine Parvovirus and Feline calicivirus; Bacteria of Staphylococcus aureus, Streptococcus pyogenes, Klebsiella pneumoniae, and Pseudomonas aeruginos. Fungi of Trichophyton mentagrophytes(2%). Not approved in California for use against the following organisms: Viruses of Distemper, Leptospira canicola, Feline parvovirus, Feline herpes; Fungi of Microsporum canis.

APPLICATION: 1% solution of Virkon® S Disinfectant and Virucide* is recommended as a “one step” cleaning and disinfecting procedure (Remove Gross filth and heavy soil deposits before application of the disinfecting/cleaning solution) for all surfaces, equipment, instruments, utensils and cages, caging systems, within or associated with Veterinary Medical Hospitals, infections disease wards, quarantine areas, Humane Society facilities, laboratory animal quarters, grooming and boarding facilities, kennels, catteries and animal transportation vehicles.

Do not immerse metal objects in Virkon® S Disinfectant and Virucide* for long periods - 10 minutes is maximum contact time.

EMERGENCY DISEASE CONTROL (ANIMAL HEALTH)

Not approved for this use in California

CONTROLS: OIE List A Disease organisms including Foot and Mouth Disease Virus, African Horse Sickness Virus, Vesicular Stomatitis Virus, Classical Swine Fever Virus (Hog Cholera Virus), African Swine Fever Virus, Newcastle Disease Virus, and Highly Pathogenic Avian Influenza Virus, Swine Vesicular Disease Virus, and Mycoplasma mycoides (Contagious Bovine Pleuropneumonia).

A 1% solution of Virkon® S Disinfectant and Virucide* is recommended to clean and disinfect agricultural facilities and equipment, military facilities and equipment; airport facilities and equipment, port facilities and equipment, rail facilities and equipment, quarantine facilities and equipment, slaughter facilities and equipment, and other shipping facilities and equipment where animals or soils suspected of harboring foot and mouth disease virus might have been previously present.
Within these facilities, treated objects include but are not limited to vehicles, farm equipment (including tractors, ploughing shares, cars and trucks, farm engines, harvesters, loaders, mowers, tillers and slaughter machinery), military equipment (including tanks and troop carriers), and shipping equipment (pallets, bins, and containers).

Spray Virkon®S Disinfectant and Virucide* at 1% solution to disinfect and clean walls, ceilings, floors, decks, container surfaces, vehicles, wheels, water proof footwear (such as rubber boots), livestock equipment, utensils and instruments.

Do not immerse metal objects in Virkon®S Disinfectant and Virucide* for long periods - 10 minutes is maximum contact time.

**DISINFECTION LIMITED TO SPECIFIC AND KNOWN DISEASE ORGANISMS**

*Not approved for this use in California*

The instructions above call for use of a 1% solution for general disinfection, however, Virkon®S Disinfectant and Virucide* is effective against the following disease organisms at the dilution rates specified below. If the threat is known and limited to one of the organisms below, Virkon®S Disinfectant and Virucide* may be used at the following dilution rates:

<table>
<thead>
<tr>
<th>Disease Organism</th>
<th>Dilution Rate</th>
<th>Oz./Gal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCV2 Virus (PMWS)</td>
<td>1:200</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**USES IN FACILITIES USED FOR TEMPORARY CONFINEMENT OF ANIMALS**

A 1% solution of Virkon®S Disinfectant and Virucide* is recommended to clean and disinfect inanimate surfaces associated with facilities used for the temporary confinement of animals. Sites may include, but are not limited to, barns, sheds, stables, pens, cages, and associated access alleys or walkways. Virkon®S Disinfectant and Virucide* may also be used to clean and disinfect equipment related to the maintenance of animals found at fairs, exhibitions, animal auction yards, animal show/boarding facilities, or other similar agricultural facilities designed for the temporary housing of animals.

To ensure that Virkon®S Disinfectant and Virucide* does not come in direct contact with animals, feed, or water, remove animals from treatment site and either remove or cover feed and water apparatus. To ensure precise application on inanimate surfaces, Virkon®S Disinfectant and Virucide* may only be applied using hand-held sprayers, sponges on other absorbent materials.

Do not allow Virkon®S Disinfectant and Virucide to pool on surfaces that may be within reach of animals. Do not allow Virkon®S Disinfectant and Virucide* to come into direct contact with people. Allow Virkon®S Disinfectant and Virucide* to completely dry prior to housing animals, using equipment, or allowing people to contact treated sites.

**MANUFACTURED FOR:**

E. I. du Pont de Nemours and Company
DuPont Animal Health Solutions
PO Box 80023, Wilmington, DE 19880-0023 USA

**Questions?** Call 1-800-441-7515
Outside the US, contact: 1-302-774-1000