

LINE ONE

NRQ - NO RINSE QUAT

Disinfectant - Sanitizer - Deodorizer - Fungicide - Mildewstat - Virucide*

Line One NRQ is a one-step disinfectant that is effective against a broad spectrum of bacteria, is virucidal* (including HIV-1, HCV & HBV) and inhibits the growth of mold and mildew and their odors when used as directed. NRQ can be applied through immersion tanks, foaming apparatus, low-pressure sprayers, and fogging systems. It is specially formulated to effectively eliminate offensive odors caused by mold and mildew.

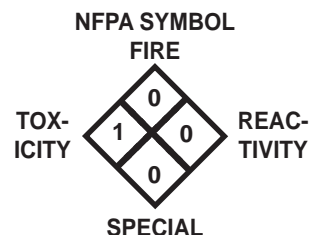
NRQ is effective against the following viruses: Avian influenza A H9N2/Turkey/Wisconsin Virus, Avian Reovirus, Bovine Viral Diarrhea Virus, Infectious Bronchitis Virus, Infectious Bovine Rhinotracheitis virus (IBR), Canine Coronavirus, Canine Distemper Virus, Equine Arteritis virus, Herpes Simplex Type 1, Herpes Simplex Type 2, Hepatitis B Virus, Hepatitis C Virus, Human Coronavirus, Infectious Laryngotracheitis Virus, Influenza A2/Japan/305 Virus, Newcastle disease virus, Porcine Respiratory & Reproductive, Virus (PRRSV), Porcine Rotavirus, Pseudorabies virus, Transmissible Gastroenteritis (TGE) Virus, Vaccinia virus, Virus Type I (HIV-1) (associated with AIDS), Hepatitis C virus (HCV) and Hepatitis B virus (HBV).

NRQ is effective against the following bacteria: Botrytis cinerea, Burkholderia cepacia, Campylobacter jejuni, Corynebacterium ammoniagenes, Escherichia coli 0157:H7, Enterococcus faecium (Vancomycin Resistant) (VRE), Klebsiella pneumoniae, monocytogenes, Proteus mirabilis, Pseudomonas aeruginosa, Salmonella choleraesuis, Salmonella typhi, Shigella sonnei, Staphylococcus aureus, Staphylococcus aureus (Methicillin Listeria resistant), Yersinia enterocolitica.

First Aid Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **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 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 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 a poison control center or doctor. Do not give anything by mouth to an unconscious person. **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

pH	7.0 to 8.0
Weight per gallon	8.2
Color	Clear
Odor	Mild

HMIS	
Health	1
Flammability	0
Reactivity	0
Pers. Protection	B



NFPA (Nat-Fire)	(HAZ-MAT) HMIS
EXTREME 4	SEVERE 4
HIGH 3	SERIOUS 3
moderate 2	MODERATE 2
slight 1	SLIGHT 1
insignificant 0	MINIMAL 0
	B EYE PROTECTION & GLOVES

MATERIAL SAFETY DATA SHEET



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Date Compiled: April 27, 2009

SECTION 1: PRODUCT IDENTIFICATION

Product name: **LINE ONE NRQ**

Synonym/Chemical name/Common name: Disinfectant/Cleaner

Proper shipping name: Disinfectant Liquid Corrosive (Quaternary Ammonium Compound),
8, UN1903, PGIII – (LIMITED QUANTITY IN GALLON CONTAINERS)

Knapp inventory number: 71106

SECTION 2: INGREDIENT INFORMATION

Hazardous Ingredients	Wt %	Toxicity Data
Alkyl (C ₁₄ 60%, C ₁₆ 30%, C ₁₂ 5%, C ₁₈ 5%) dimethyl benzyl ammonium chloride	5.0	N/A
Alkyl (C ₁₂ 68%, C ₁₄ 32%) dimethyl ethylbenzyl ammonium chloride	5.0	N/A

This product contains no chemical at a level which poses a significant risk as defined by California Proposition 65.

This product contains no toxic chemical, above its de minimis concentration, subject to reporting requirements of Title III SARA, section 313 EPCRA (40 CFR 372).

SECTION 3: PHYSICAL CHARACTERISTICS

Specific Gravity (H₂O=1): 0.98

Vapor pressure: 17.2 mm Hg

Vapor density (Air=1): No vapors are produced

Percentage volatile by weight: 90.0

Solubility in water: Complete

pH (Undiluted): 7.0 to 8.0

Evaporation rate (H₂O=1): 1.0

Freezing point: 32°F

Boiling point: 212°F

Appearance and odor: Clear liquid with mild odor

SECTION 4: FIRE AND EXPLOSION HAZARDS

Flash point: Nonflammable
Flash point test method: N/A
Flammability limits: N/A
Extinguishing media: Treat primary fire
Special fire fighting procedures: None
Unusual fire or explosive hazards: None

SECTION 5: REACTIVITY DATA/CONDITIONS TO AVOID

Stability: Stable
Incompatibilities (Conditions to avoid): None
Hazardous decomposition products: None
Hazardous polymerization will not occur.
Conditions to avoid: None are known

SECTION 6: HEALTH HAZARDS/FIRST AID

Primary routes of entry: None
Signs and symptoms: Product is irritating to eyes and sensitive skin.
First aid procedures: For skin contact, flush with large amounts of water. For eye contact, flush with water for at least 15 minutes. There are no known chronic health effects caused by the use of this product.

SECTION 7: PERSONAL PROTECTION RECOMMENDATIONS

Respiratory protection: None required
Ventilation: None
Protective gloves: Rubber gloves are recommended for prolonged or repeated use.
Eye protection: Guard against splashing in eyes.

SECTION 8: STORAGE/SPILL/SPECIAL HANDLING INFORMATION

Steps to be taken in case of spill: Spill area will be slippery until spilled material is removed. Remove with rags, mops, or by flushing with water.
Waste disposal: Follow all local, state and federal waste disposal regulations.
Special storage or handling precautions: None
N/D=Not determined N/A=Not applicable

This Material Safety Data Sheet is written and provided in good faith for the sole purpose of providing information for the safe use and handling of this product. It is compiled from technical data believed to be current and correct. It should not be taken as a warranty or representation for which Knapp Manufacturing assumes any legal responsibility. The buyer assumes all responsibilities of using and handling the product in accordance with local, state, and federal regulations.

monocytogenes, Proteus mirabilis, Salmonella enterica, Staphylococcus aureus, Staphylococcus aureus (Methicillin resistant), and Yersinia enterocolitica.

***Virucidal Performance:** At 4 ounces per 5 gallons use level (or equivalent use dilution) (625 ppm active quat), this product was evaluated in the presence of 5% serum with a 10-minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces: Avian influenza A H9N2/Turkey/Wisconsin virus, Avian Influenza A (H5N1) virus, Hepatitis B Virus, Hepatitis C Virus, Herpes Simplex Type1, Herpes Simplex Type 2, HIV-1 (w/ 2 minute contact time), Human Coronavirus, Infectious Bronchitis Virus, Influenza A2/Japan Virus, and Vaccinia virus.

FOR DISINFECTING HARD, NON-POROUS SURFACES AGAINST AVIAN INFLUENZA A (H5N1): For use in homes, hospitals, hotels, motels and schools, the directions for hospital disinfection must be followed using a rate of 4 oz per 5 gallons of water (625 ppm active quat) (or equivalent use dilution). For use in animal housing facilities, follow the animal premise directions.

This product is not for use on Medical device surfaces. At 4 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat) in the presence of 200 ppm hard water (CaCO₃) and 5% serum this product was proven to be effective against (Duck) Hepatitis B Virus with a contact time of 10 minutes. At 4 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat) was proven to be effective in the presence of 5% organic load against Bovine Viral Diarrhea Virus BVDV (surrogate for human Hepatitis C virus) with a contact time of 10 minutes.

***KILLS HIV, HCV AND HBV ON PRECLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care setting or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with body fluids and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS), Hepatitis C virus (HCV) and Hepatitis B virus (HBV).

"SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, HCV AND HBV ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS."

Personal Protection: Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable latex gloves, gowns, masks, and eye coverings.

Cleaning Procedure: Blood and other body fluids must be thoroughly cleaned from surfaces and objects before application of the disinfectant.

Disposal of Infectious Materials: Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

Contact Time: For HIV, leave surfaces wet for two minutes with 4 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat) use solution. This contact time will not control other common types of viruses and bacteria. For HBV and HCV, leave surfaces wet for 10 minutes with 4 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat).

General Deodorization: To deodorize, add 3 ounces of this product to 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Excess material must be wiped up or allowed to air dry.

For Deodorizing Garbage Cans, Garbage Trucks, Industrial Waste Receptacles and Garbage Handling Equipment: It is especially important to preclean for the product to perform properly. Then apply a wetting concentration of 3.25 ounces of this product per gallon of water (or equivalent use dilution) (2,500 ppm quat active). Treated surfaces must remain wet for 10 minutes.

Fungicidal Activity: At 4 ounces per 5 gallons use level (or equivalent use dilution) (625 ppm active quat) Treated surfaces must remain wet for 10 minutes.) this product is effective against Trichophyton mentagrophytes (athlete's foot fungus) (a cause of Ringworm) on inanimate surfaces in the presence of 5% blood serum in locker rooms, dressing rooms, shower and bath areas and exercise facilities. Saturate surfaces with use solution. Treated surfaces must remain wet for 10 minutes. Allow solution to dry on surface and repeat treatment every seven days or when new growth appears.

Mold and Mildew Control: At 4 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat) this product will effectively inhibit the growth of mold and mildew and the odors caused by them when applied to hard, non-porous surfaces. Allow to solution dry on surface and repeat treatment every seven days or when new growth appears. Allow surfaces to remain wet for ten minutes.

To Disinfect Food Service Establishment Food Contact Surfaces: For countertops, exterior surfaces of appliances, and tables, add 3 ounces of this product to 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Before using this product, food products and packaging materials must be removed from area or carefully protected. For heavily soiled areas, a pre-cleaning step is required. Apply solution with a mop, cloth, sponge or hand pump trigger sprayer so as to wet all surfaces thoroughly. For sprayer applications, use a coarse spray device. Allow to remain wet for 10 minutes. Then remove excess liquid and rinse the surface with potable water.

For Use on Non-Food Contact Surfaces as a General Disinfectant in the Brewery Industry: Use 3 ounces of this product per 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Follow the general disinfectant directions above.

Directions for Fogging in Dairies, Beverage and Food Processing Plants: For use in dairies, beverage and food processing plants. Prior to fogging, food products and packaging material must be removed from the room or carefully protected. After cleaning, fog desired areas using one quart per 1000 cubic feet of room area with a product solution containing 1.5 ounces product to 1 gallon of water (or equivalent use dilution) (1,200 ppm). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging. All food contact surfaces must be sanitized with an EPA approved food contact sanitizer solution of 200 ppm active quaternary (1 ounce of this product to 4 gallons of water) prior to use. Allow food contact surfaces to drain thoroughly before operations are resumed.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.

MUSHROOM FARM INDUSTRY USE DIRECTIONS: Site Preparation: The first step in any on-going sanitation program must be the removal of gross contamination and debris. This may be accomplished by using a shovel, broom, or vacuum, depending on the area to be disinfected.

Disinfection: Use 3 ounces of this product per 5 gallons of water (0.60 ounces per gallon of water) (or equivalent dilution). Wet all surfaces thoroughly. Treated surfaces must be allowed to remain wet for 10 minutes. Let air-dry. For heavily soiled areas, pre-clean first. Prepare a fresh solution for each use. For Heavy Duty Cleaning: When greater cleaning is desired, use 6 ounces of this product per 5 gallons of water (1.2 ounces of this product per gallon of water) (or equivalent dilution). Heavily soiled areas may require repeated cleaning before treatment.

DO NOT APPLY TO THE MUSHROOM CROP, COMPOST OR CASING. Rinse treated surfaces with potable water before they contact the crop, compost or casing.

ANIMAL PREMISE VIRUCIDAL PERFORMANCE: At 4 ounces per 5 gallons use level (or equivalent use dilution) (625 ppm active quat), this product was evaluated in the presence of 5% serum with a 10 minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces: Avian influenza A H9N2/Turkey/Wisconsin virus, Avian Influenza A (H5N1) virus, Infectious Laryngotracheitis Virus, Avian Reovirus, Newcastle disease virus, Bovine Viral Diarrhea Virus, Porcine Respiratory & Reproductive Virus (PRRSV), Canine Coronavirus, Canine Distemper Virus, Porcine Rotavirus, Equine Arteritis virus, Pseudorabies virus, Infectious Bovine, Rhinotracheitis virus (IBR), Transmissible Gastroenteritis (TGE) Virus

Disinfection/Fungicide/Virucide of Poultry/Turkey Equipment, Swine Quarters, Animal Quarters and Kennels Directions: Prior to use, remove all animals and feeds from premises, vehicles and enclosures coops and crates. 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. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Use 4 ounces of this product per 5 gallons of water (or equivalent use dilution) (625 ppm active quat). Saturate surfaces with the disinfecting solution for a period of 10 minutes. 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.

After application, ventilate buildings, coops and other closed spaces. Do not house poultry or other animals or employ equipment until treatment has been absorbed, set or dried. All treated equipment that will contact feed or drinking water racks, troughs, automatic feeders, fountains and waterers must be thoroughly scrubbed with soap or detergent, then rinsed with potable water before reuse.

Veterinary Clinics/Animal Life Science Laboratory/Zoos/Pet Shop/Kennels/Breeding and Grooming Establishment/Tack Shops Disinfection Directions: For cleaning and disinfecting the following hard, non-porous surfaces: equipment, utensils, instruments, cages, kennels, stables, stalls and catteries. Remove all animals and feeds from premises, animal transportation vehicles, crates etc. Remove all litter, droppings and manure from floors, walls and surfaces of facilities occupied or traversed by animals. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces with a use solution of 4 ounces per 5 gallons of water (or equivalent dilution) (625 ppm active quat) for a period of 10 minutes. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals as well as forks, shovels, scrapers used in removing litter and manure. Ventilate buildings and other closed spaces. Do not house animals or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, automatic feeders, waterers, and other equipment which dispenses food or water with soap or detergent, and rinse with potable water before reuse.

NON-FOOD CONTACT SANITIZING PERFORMANCE: Add 1 ounce of this product to 4 gallons of water (or equivalent use dilution) (200 ppm active) to sanitize hard, non-porous surfaces with a 3 minute contact time. At 200 ppm active, this product is an effective one-step sanitizer against Staphylococcus aureus and Enterococcus aerogenes. **PREPARATION OF NON-FOOD CONTACT SANITIZER USE SOLUTION:** With spray applications, cover or remove all food products. Add 1 ounce of this product to 4 gallons of water (or equivalent use dilution) (200 ppm active). Apply sanitizer use solution to pre-cleaned, hard, non-porous surfaces with a cloth, mop, sponge, sprayer or by immersion. For sprayer applications, use a coarse pump or trigger sprayer. Spray 6-8 inches from surface and rub with brush, sponge or cloth. Do not breathe spray. Treated surfaces must remain wet for 3 minutes, then wipe with sponge, mop or cloth or allow to air dry.

FOOD CONTACT AND PROCESSING EQUIPMENT SANITIZING DIRECTIONS: For Public Eating Places, Dairy Processing Equipment and Food Processing Equipment and Utensils: Apply a solution of 1 ounce of this product in 4 gallons of water (or equivalent use dilution) (200 ppm active) to pre-cleaned, hard surfaces, thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray applications, use a coarse pump or trigger sprayer. Spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications cover or remove all food products. From a Closed Loop Dilution Center, apply 200 ppm active solution to the surface to be sanitized. Surfaces must remain wet for at least 1 minute followed by adequate draining and air drying. A fresh solution must be prepared at least daily or when use solution becomes visibly dirty. For mechanical application Use solution may not be reused for sanitizing applications. **NO POTABLE WATER RINSE IS ALLOWED.**

FOR FOOD PROCESSING EQUIPMENT AND UTENSILS IN FOOD PROCESSING FACILITIES: Prior to application, remove gross food particles and soil by pre-flush, or pre-scrape, and when necessary, pre-soak. Then thoroughly wash or flush objects with a compatible detergent followed by a potable water rinse before application of sanitizing solutions. Apply a solution of 1 to 2 ounce(s) of this product in 4 gallons of water (or equivalent use dilution) (200-400 ppm active) to pre-cleaned, hard, non-porous surfaces thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray applications, use a coarse pump or trigger sprayer. Spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications cover or remove all food products. From a Closed Loop Dilution Center, apply 200-400 ppm active solution to the surface to be sanitized. Surfaces must remain wet for at least 1 minute followed by adequate draining and air drying. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications. **NO POTABLE WATER RINSE IS ALLOWED AFTER APPLICATION OF THE SANITIZING SOLUTION.** At 1 ounce per 4 gallons this product (200 ppm active) eliminates 99.999% of the of the following bacteria in 60 seconds in 500 ppm hard water (calculated as CaCO3) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test: Campylobacter jejuni, Escherichia coli, Escherichia coli O157:H7, Listeria monocytogenes, Shigella dysenteriae, Staphylococcus aureus, Yersinia enterocolitica.



Disinfectant Liquid Corrosive (Quaternary Ammonium Compound), 8, UN1903, PGIII