

APPROVED DECONTAMINATION PRODUCTS & METHODS

CITRUS HEALTH RESPONSE PROGRAM - COMPLIANCE AGREEMENT ATTACHMENT – SCHEDULE 11

In order to prevent the spread of citrus diseases, it is essential that personnel and equipment working near or contacting any citrus plant material be decontaminated in accordance with Citrus Health Response Program rules, with an approved material, regardless of whether an infestation has been proven to exist. Risks of acquiring and dispersing citrus diseases such as citrus canker bacterial inoculum and the black spot fungal pathogen are greatest when diseased citrus plant material and surrounding vegetation are wet. Avoid any unnecessary contact with citrus.

DECONTAMINATION of personnel and equipment are required procedures to be carried out by the terms set forth within each Citrus Health Response Program Compliance Agreement under authority of Chapter 581.184 (6), Florida Statutes and Rule Chapter 5B-63, F.A.C. The following steps meet minimum standards for most regulated entities. Citrus nurseries have additional requirements.

1 Prior to departing a citrus grove or citrus production unit, a citrus receiving facility, or a disposal site, all personnel must **inspect** vehicles and equipment for citrus plant material and debris **and clean** all vehicles, equipment, picking sacks, clothing and hand tools free of fruit, limbs, leaves, soil and debris prior to bacterial decontamination. This plant material and debris must be left on the property or be disposed of in accordance with established Citrus Health Response Program procedures.

2 All personnel, vehicles and equipment (picking sacks, hand tools, etc.) must be decontaminated by an appropriate sanitizing method in accordance with *Approved Decontamination Products & Methods* (Schedule 11).

It is important that all users of approved products in this listing always READ AND FOLLOW THE PRODUCT LABEL. Please note that no single antimicrobial product is approved for use interchangeably on both personnel and equipment. In addition to grove and harvesting equipment and vehicles, citrus fruit picking sacks and clippers must also be disinfected with an approved equipment decontaminant listed in this document under, “DECONTAMINATION OF EQUIPMENT.”

DECONTAMINATION OF PERSONNEL: All persons should disinfect hands, arms and any other parts of the body that have contacted citrus and surrounding vegetation, **plus gloves and hats**, and any clothing, shoes and small personal items (pen, hand lens, glasses, pocketknife, etc.) that have come in contact with risky plant material, using one of the following prescribed products in accordance with label directions. (Larger equipment and worker accessories associated with harvesting operations should be treated with the products described in the EQUIPMENT section below.) Some personnel decontaminants are one-step no-rinse products, which are listed below under the heading, “PERSONNEL DECONTAMINANTS for use on Clothing AND Skin,” and can be applied to clothing while being worn, in addition to skin. Other personnel decontaminants, which are listed below under the heading, “PERSONNEL DECONTAMINANTS for use ONLY on Skin,” are approved for skin use only, requiring a follow-up water rinse, or soap and water hand-washing BEFORE use of the product. When using these materials, allow the no-rinse products to air-dry. For thorough decontamination of hands, use normal hand washing action for 20 to 30 seconds, paying special attention to fingernails and areas between fingers. Products marked with ‘*’ are in a formulation that can be applied to clothing and shoes using a spray dispenser. With all products, avoid contact with eyes, and observe product safety precautions given by the manufacturer. It is important that the users of any of these products always READ AND FOLLOW THE LABEL DIRECTIONS.

PERSONNEL DECONTAMINANTS for use on Clothing AND Skin:

1. * GX-1027 Antimicrobial Soap	Galloway Chemical	(800) 445-1143
2. * Canker Guard	Flo Tech. Inc.	(800) 335-6832
3. * Csan 154 QT Soap	Bell Chem Corporation	(866) 877-2355
4. * EcoCare 360	Ecolab	(651) 293-2233
5. * Medi-Kwik AntiMicrobial & Fungicidal Skin Cleanser	(by Envirosafe, Inc.)	No Contact Available
6. * Triple Crown Super Healer	(by Envirosafe, Inc.)	No Contact Available
7. * QHS Quaternary Hand Sanitizer (by Chemstar Products, Inc.)	Stepan Co.	(800) 457-7673
8. * C-Soap	Agri Flow	(863) 381-2628

PERSONNEL DECONTAMINANTS for use ONLY on Skin:

A. Hibiclens (by SSL)	Medco Sports	(800) 55medco
B. Hibistat (by SSL) (wholesale only)	Medco Sports	(800) 55medco
C. EcoCare 250	Ecolab	(651) 293-2233
D. EcoCare 350 (alcohol-base / no rinse)	Ecolab	(651) 293-2233
E. FS Antimicrobial Hand Cleaner; FS E-2 Sanitizing Hand Soap	ZEP Manufacturing Co.	(800) 313-8439
F. Acclaim Antibacterial Liquid Hand Soap	ZEP Manufacturing Co.	(800) 313-8439
G. Nobac Instant Foam Hand Sanitizer	Mason Chemical Co.	(800) 362-1855
H. Zep Foam San	(by Zep Manufacturing Co.)	Product Discontinued
I. Zep Foamy Sanz	Zep Manufacturing Co.	(800) 313-8439
J. Selig Foaming Hand Sanitizer	Selig Industries	(800) 447-3544
K. Selig Perfect Touch	Selig Industries	(800) 447-3544

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CITRUS HEALTH RESPONSE PROGRAM - COMPLIANCE AGREEMENT ATTACHMENT – SCHEDULE 11

PERSONNEL DECONTAMINANTS for use ONLY on Skin: (continued)

L. QS Plus (non-alcohol hand sanitizer) Aero Chemical Co. (800) 795-9222

DECONTAMINATION OF EQUIPMENT: Equipment and vehicle surfaces (including undercarriages) should be regularly inspected for freedom from plant debris and soil residue, pressure washed with detergent, and then further disinfected with any of the following approved equipment decontamination materials applied to all surfaces to the point of runoff. Recommended contact time for all listed chemical decontaminants is ten minutes. Although use of equipment decontaminants on personnel is prohibited, fruit picking sacks and clippers must be cleaned and then disinfected with one of these Equipment Decontamination Materials. Where skin sensitivity is of concern, these articles may be immersed in prescribed QAC or chlorine solutions for ten minutes, and then rinsed in clean water prior to use. Since the following QAC decontamination materials are not labeled for use on fruit or personnel, it is recommended that care be taken to avoid contact with exposed fruit and personnel when applying these products. It is important that the users of these products always READ AND FOLLOW THE LABEL DIRECTIONS.

Please note that as of the revision date of this document, USDA/ APHIS has listed only the following approved materials for the decontamination of equipment exposed to citrus fruit or plant material originating from citrus black spot and sweet orange scab quarantined areas:

1. Sodium hypochlorite solution at 200 ppm with pH of 6.0 – 7.5; or
2. Quaternary ammonium chloride (QAC) compound at 0.2 percent solution; or
3. Peroxyacetic acid (PAA) solution at 85 ppm PAA (indoor use only).

Quaternary Ammonium Chloride ‘QAC’: The use of these compounds is recommended for vehicles, tools and equipment. **Do not use on personnel.** Apply all QAC products at 2000 ppm (0.2%) QAC solution to all equipment surfaces to the point of runoff (dilution ratio 1:108). Recommended contact time is 10 minutes. The following QAC products are approved for use in the decontamination of equipment, and carry EPA Section 3 registrations:

1. CITRA-SOLV/ CANKER-SOLV	EPA Reg.No. 10324-72-72160.	(by FLO-TEC Inc.)	Product Discontinued
2. CS-170-C	EPA Reg.No. 10324-72-44637.	(by Chem. Systems, FL) FLO-TEC Inc.	(800) 335-6832
3. Canquat 110c	EPA Reg.No. 10324-72-33354.	Fresh Mark Corporation	(352) 429-4171
4. Canquat 108	EPA Reg.No. 1839-167-33354.	Fresh Mark Corporation	(352) 429-4171
5. BELQUAT 612	EPA Reg.No. 10324-72-67829.	Bell Chem Corporation	(866) 877-2355
6. SAN-O-128	EPA Reg.No. 10324-155-402.	Hill Manufacturing Co.	(800) 445-5123
7. ZEP X-1400	EPA Reg.No. 10324-72-1270.	(by ZEP Manufacturing)	Product Discontinued
8. DECCOSAN 321	EPA Reg.No. 10324-72-2792.	Decco Cerexagri, Inc.	(800) 237-2591
9. CPF QUAT	EPA Reg.No. 10324-72-9367.	Theochem Laboratories, Inc.	(800) 237-2591
10. HDQ-22 High Dilution Quat	EPA Reg.No. 1839-167-70671.	(by Chemstar Products) Stepan Co.	(800) 457-7673
11. Canker Control Concentrate	EPA Reg.No. 1839-167-22061.	(by Galloway Chemical)	Product Discontinued
12. C-Quat	EPA Reg.No. 10324-72-73439.	(by Genesis Technologies)	No Contact Available
13. J & J Disinfectant Spray	EPA Reg.No. 10324-72-32981.	J & J Chemical Co.	(800) 345-3303
14. Canker-Solv (neutral pH)	EPA Reg.No. 10324-108-72160	(by FLO-TEC Inc.)	Product Discontinued
15. Canker-Solv Reduced Corrosion	EPA Reg.No. 10324-109-72160.	FLO-TEC Inc.	(800) 335-6832
16. AP Neutral Disinfectant Cleaner	EPA Reg.No. 1839-167-74709.	APCO Equipment & Supply	(863) 648-9774
17. Microdyne Extra	EPA Reg.No. 10324-72-74098.	Eurochem International	(404) 696-9867
18. C-Quat Plus	EPA Reg.No. 10324-72-73439.	(by Genesis Technologies)	No Contact Available
19. CANKERQUAT	EPA Reg.No. 1839-167-6428.	(by International Chemical)	Discontinued/ No Contact Available
20. HDH Quat 108	EPA Reg.No. 1839-167-83103	HDH Agri Products LLC	(352) 343-3484

ALTERNATIVE METHODS FOR DECONTAMINATION OF EQUIPMENT:

(A) Peracetic Acid: Only approved formulations may be used, only with injection systems, and may only be used on equipment including food contact surfaces. Rinsing is not required if used in accordance with product label. This material must be applied to reasonably clean equipment, follow label instructions for ratio. The following products are approved for use in decontamination of equipment, and carry EPA Section 3 registration:

1) VigorOx Citrus XA	EPA Reg. No. 65402-6.	FMC Fresh Produce Technologies	(800) 845-0187
2) VigorOx XA-15	EPA Reg. No. 65401-3.	FMC Fresh Produce Technologies	(800) 845-0187
3) Peroxy-Solv	EPA Reg. No. 72160-1.	FLO-TEC Inc.	(800) 335-6832
4) JET-Oxide	EPA Reg. No. 54289-3-81803	JET Harvest Solutions	(877) 866-5773
5) Peraclean 5	EPA Reg. No. 54289-3	A Growing Alternative, Inc.	(828) 766-6179

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CITRUS HEALTH RESPONSE PROGRAM - COMPLIANCE AGREEMENT ATTACHMENT – SCHEDULE 11

ALTERNATIVE METHODS FOR DECONTAMINATION OF EQUIPMENT: (continued)

(B) Hydrogen Peroxide Products: Only approved formulations may be used, only with injection systems, and may only be used on equipment, including food contact surfaces. Rinsing is not required if used in accordance with product label. This material must be applied to reasonably clean equipment, at CHRP-approved ratio indicated. The following product is approved for use in decontamination of equipment, and carries EPA Section 3 registration:

1) OxiDate Dilution ratio 1:200	EPA Reg. No. 70299-2.	BioSafe Systems	(888) 273-3088
2) Oxyfresh Dilution ratio 1:200	EPA Reg. No. 33354-18	Fresh Mark Corporation	(352) 429-4171
3) HDH Peroxy Dilution ratio 1:200	EPA Reg. No. 83103-1	HDH Agriproducts LLC	(352) 343-3484
4) Di-Oxy Solv Organic Dilution ratio 1:200	EPA Reg. No. 72160-2	Flo-Tec Inc.	(800) 335-6832

(C) Copper-based products: Only approved formulations may be used, and only on equipment, vehicles, tools, clothing and shoes. Not for use on skin. This material must be applied to reasonably clean equipment at CHRP-approved ratio indicated. Dilute with clean water with the pH adjusted to <7.0 before mixing. The following product is approved for use in decontamination of equipment, and carries EPA Section 3 registration:

1) Eradicator Dilution ratio 1:1000	EPA Reg. No. 66675-4.	The New Magna-Bon Corp.	(863) 357-0400
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(D) Household Bleach (Chlorine) or Commercial Hypochlorite Products: A solution for decontamination of tools and equipment can be made using household bleach or other more concentrated hypochlorite products. Apply 200 ppm available chlorine to all surfaces to the point of run-off and maintain a pH of 6.0 to 7.5. Most solutions made with 1 ounce of household bleach to 1 gallon of water meet these criteria. This solution loses its strength rapidly, and should be made fresh daily. Bleach is not an effective decontaminant if used on dirty equipment.

(E) Hot Water and Detergent: Wash thoroughly with a hot water and detergent solution, under high pressure, at a minimum of 160 degrees F, covering all surfaces to the point of runoff.

(F) Steam: Apply steam, with minimum temperature of 160 degrees F, to all surfaces. This temperature must be maintained at the point of contact. Note: It has been proven to be extremely difficult to maintain the 160 degree F temperature in actual use. Applying steam with a combination of dry heat in an enclosed chamber has been successful.