STATE OF HAWAII
Department of Agriculture
ACCEPTED
LICENSE NO.
9203.192

ECOLAB®

Tsunami 100™

Water Additive for Pathogen* Reduction in Fruit and Vegetable Processing Water and Controlling the Growth of Spoilage and Decay Causing Non-Public Health Organisms on Fruit and Vegetable Surfaces

For Organic Production

Tsunami 100 may be used as a water additive in fruit and vegetable processing water on products labeled as organic in food processing facilities on both raw agricultural commodities and on fruits and vegetables that will be further processed.

ACTIVE INGREDIENTS:

Peroxyacetic acid	15.2%
Hydrogen peroxide	11.2%
INERT INGREDIENTS:	73.6%
TOTAL:	100.0%

KEEP OUT OF REACH OF CHILDREN
MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS

DANGER | PELIGRO

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CORROSIVE: Causes severe eye damage and skin burns. Harmful or fatal if swallowed. Do not get in eyes, on skin, or on clothing. Wear chemical goggles, rubber gloves, and protective clothing if handling concentrate. Wash thoroughly with soap and water after handling and before eating, drinking, and chewing gum, or using tobacco. Remove any contaminated clothing and wash before re-use.

FOR INDUSTRIAL USE
STRONG OXIDIZING AGENT

EPA Reg. No. 1677-164

Read all labels for directions for use, first aid and precautionary statements.
Lea todas las etiquetas para instrucciones de uso, primeros auxilios y medidas preventivas.

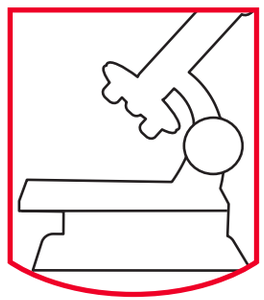
758638/5300/0414

FIRST AID

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 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.
FOR EMERGENCY MEDICAL INFORMATION IN USA OR CANADA, CALL: 1-800-328-0026.
FOR EMERGENCY MEDICAL INFORMATION WORLDWIDE, CALL: 1-651-222-5352 (IN THE USA).
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.
PHYSICAL AND CHEMICAL HAZARDS:
Strong Oxidizing Agent: Corrosive. Do not use in concentrated form. Mix only with water according to label instructions. Never bring concentrate in contact with other sanitizers, cleaners, or organic substances.

STORAGE & DISPOSAL

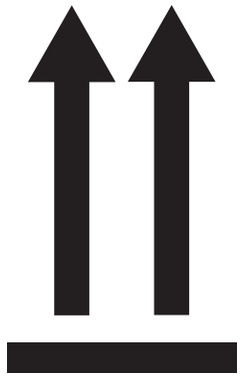
DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.
PESTICIDE STORAGE: Product should be kept cool and in a vented container to avoid any explosion hazard.
PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER HANDLING AND DISPOSAL: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat procedure two more times. Then offer for recycling or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.



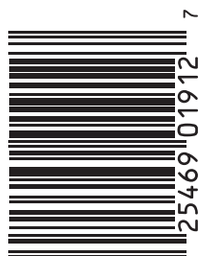
Sanitizer
Desinfectante

NET CONTENTS:
189 L (50 US GAL)

6301162



DO NOT STORE IN DIRECT SUNLIGHT | NO ALMACENE BAJO LA LUZ SOLAR DIRECTA



ECOLAB®

Tsunami 100™
Water Additive for Pathogen* Reduction in Fruit and Vegetable Processing Water and Controlling the Growth of Spoilage and Decay Causing Non-Public Health Organisms on Fruit and Vegetable Surfaces

Read all labels for directions for use, first aid and precautionary statements. | Lea todas las etiquetas para instrucciones de uso, primeros auxilios y medidas preventivas.

758638

EPA PROOF IN PROCESS (PLEASE DATE AND INITIAL WHEN FINISHED)

ROUND	1	2	3	4	5	6	7	8	9	10
DATE	04/21/14									
Designer Initials	KF									

* When EPA art is finalized and going to print vendor put an * next to your initials.

PRINTER NOTES: Dieline Layer in this Document when needed.

ECOLAB®

Tsunami 100™

Water Additive for Pathogen* Reduction in Fruit and Vegetable Processing Water and Controlling the Growth of Spoilage and Decay Causing Non-Public Health Organisms on Fruit and Vegetable Surfaces

KEEP OUT OF REACH OF CHILDREN
MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS

DANGER | PELIGRO

ENVIRONMENTAL HAZARDS

This product is toxic to birds, fish, and aquatic invertebrates. 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.

Used as directed, Tsunami 100 reduces 99.9% of the pathogens *Escherichia coli* 0157:H7*, *Listeria monocytogenes**, and *Salmonella enterica** in fruit and vegetable processing waters. Tsunami 100 also provides control of spoilage and decay causing non-public health organisms present in processing waters and on the surface of post-harvest, fresh-cut and processed fruits and vegetables.

DIRECTIONS FOR USE

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

FOR PATHOGEN* REDUCTION AND CONTROL IN FRUIT AND VEGETABLE PROCESSING WATERS:

A. Batch systems with no makeup water added:
1. Ensure that water is mixing in the processing vessel.
2. Add Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of process water. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. At this use dilution, Tsunami 100 will provide a 99.9% reduction against the pathogens *Escherichia coli* 0157:H7*, *Listeria monocytogenes** and *Salmonella enterica**.
3. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

B. Continuous systems with makeup water continuously added:

Initial dose:
1. Ensure that water is mixing in the processing vessel and/or piping.
2. Add Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of process water. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. At this use dilution, Tsunami 100 will provide a 99.9% reduction against the pathogens *Escherichia coli* 0157:H7*, *Listeria monocytogenes** and *Salmonella enterica**.
3. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

Continuous Dosing: Meter Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of fresh makeup water added to the system. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

FOR TREATMENT OF FRUIT AND VEGETABLE SURFACES AND PROCESS WATERS:

This product is not intended for control of any public health organisms on fruit and vegetable surfaces. Mix Tsunami 100 with water either batch-wise or continuously to produce about 36-575 ppm total product and about 5-80 ppm peroxyacetic acid in use solution. This can be accomplished by initially adding Tsunami 100 at a rate from 0.42-6.7 fluid ounces per 100 gallons of process water. The fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 90 seconds, followed by adequate draining. At this use dilution, Tsunami 100 will control the growth of spoilage and decay causing non-public health organisms, including odor causing organisms, in process waters and on the surface of fruits and vegetables.

Tsunami 100 can be used on the following types of fresh, post harvest and further processed fruits and vegetables:

Vegetables
- Root and tuber vegetables: Carrot, potato, radish, rutabaga, sweet potato, yam, sugar beet
- Leaves of root and tuber vegetables: Turnip greens, and sugar beet
- Bulb vegetables: Onion (dry bulb and green), leek, garlic, shallot
- Leafy vegetables: Lettuce (head and leaf), celery, fennel, endive, escarole, parsley, radicchio, rhubarb, spinach
- Brassica leafy vegetables: Broccoli, Brussel sprouts, cabbage, cauliflower, mustard greens, mustard spinach
- Legumes [succulent or dried], bean (green, kidney, lima, mung, navy, pinto, snap, wax), pea (chickpea, lentil, dwarf, garden, English, field, edible pea pod), alfalfa, and soybean
- Fruiting vegetables: Pepper (bell, pimento, hot, sweet), tomato, tomatillo, eggplant
- Cucurbits: Cucumber, melon (cantaloupe, crenshaw melon, honeydew, honey ball melon, mango melon, muskmelon, pineapple melon, watermelon), summer squash, pumpkins, winter squash

Fruits
- Citrus fruits: Sweet and sour orange, lemon, lime, tangelo, tangerine, mandarin, citrus citron, kumquats, grapefruit
- Pome fruits: Apples and pears
- Stone fruits: Sour and sweet cherry, peach, nectarine, plum, prune
- Small Fruits and berries: Blackberries, blueberries, red and black raspberries

Sprouts and seeds of: vegetables and fruits that are listed on this label including, root & tuber vegetables, bulb vegetables, leafy vegetables, Brassica leafy vegetables, legumes, fruiting vegetables, curcurbits, citrus fruits, pome fruits, stone fruits, small fruits and berries, mustard

Tree nuts: Almond, Brazil, filbert, cashew, pecan, walnut (black & English), macadamia, chestnut

Cereal grains: Corn, barley, oats, rice, wheat, triticale, wild rice, sweet corn

Herbs and Spices: Basil, chives, coriander, dill, lemongrass, marjoram, sage, savory, tarragon, thyme

Miscellaneous: Asparagus, avocado, artichoke, banana, cranberry, fig, grape, kiwifruit, mango, mushroom, okra, peanut, persimmon, pineapple, raisins, strawberry, water chestnut, watercress, coffee berry, coffee bean, seaweed

FOR TREATMENT OF SEEDS NOT INTENDED FOR HUMAN OR ANIMAL CONSUMPTION:

Apply to seeds as directed to control seedborne microorganisms that cause plant disease or spoilage and decay of developing seedlings. Only treat seeds of the crops listed on this label. Mix Tsunami 100 with clean water either batchwise or continuously to no more than 11,500 ppm total product (1750 ppm residual peroxyacetic acid) in use solution. This can be accomplished by adding 20 fluid ounces Tsunami 100 per 16.4 gallons of water. The volume of treatment solution should be at least two times greater than the volume of seeds to be treated. The seeds should be submerged in the treatment solution and agitated for 30 minutes. Following treatment, remove seeds from treatment solution and dry.

FOR PATHOGEN* REDUCTION AND CONTROL IN INDUSTRIAL PROCESSING WATERS:

A. Batch systems with no makeup water added:
1. Ensure that water is mixing in the processing vessel.
2. Add Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of process water. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. At this use dilution, Tsunami 100 will provide a 99.9% reduction against the pathogens *Escherichia coli* 0157:H7*, *Listeria monocytogenes** and *Salmonella enterica.**.
3. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

B. Continuous systems with makeup water continuously added:

Initial dose:
1. Ensure that water is mixing in the processing vessel and/or piping.
2. Add Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of process water. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. At this use dilution, Tsunami 100 will provide a 99.9% reduction against the pathogens *Escherichia coli* 0157:H7*, *Listeria monocytogenes** and *Salmonella enterica.**.
3. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

Continuous Dosing: Meter Tsunami 100 at a rate from 2.5-6.7 fluid ounces per 100 gallons of fresh makeup water added to the system. This will produce about 215-575 ppm total product and about 30-80 ppm peroxyacetic acid. Measure the residual peroxyacetic acid concentration in the water using a Test Kit (consult Ecolab Representative) and adjust dose as needed. Allow a 1.5 minute mixing time.

FOR TREATMENT OF INDUSTRIAL PROCESS WATERS:

This product is not intended for control of any public health organisms. Mix Tsunami 100 with water either batch-wise or continuously to produce about 36-575 ppm total product and about 5-80 ppm peroxyacetic acid in use solution. This can be accomplished by initially adding Tsunami 100 at a rate from 0.42-6.7 fluid ounces per 100 gallons of process water. At this use dilution, Tsunami 100 will control the growth of spoilage and decay causing non-public health organisms, including odor causing organisms, in process waters.

FLOODING AND PRODUCED WATER

For Water Flooding operations, add Tsunami 100 initially at 3.75 fluid ounces per 1000 gallons of water (5ppm peroxyacetic acid by weight) to 75.5 fluid ounces per 1000 gallons of water (100 ppm peroxyacetic acid by weight) and repeat until control is achieved. Subsequent treatment may be continued on a weekly basis or as required.

NOTE: This product in its use solutions is compatible with stainless steel and aluminum surfaces. If product is intended to be used on any other surface, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use.

EPA Reg. No. 1677-164
EPA Est. 1677-IL-2 (J), 1677-TX-1 (D), 1677-GA-1 (M), 1677-MN-1 (P), 70271-CA-2 (A), 1677-CA-2 (R), 1677-WV-1 (V), 303-IN-1 (L), 61056-IL-1 (SI).
Superscript refers to first letter of date code.

Ecolab Inc. · 370 Wabasha Street N · St Paul MN 55102-1390 USA · tel. 1 800 392 3392

Made in United States | Hecho en Estados Unidos
www.ecolab.com · 758640/5300/0414

EPA PROOF IN PROCESS (PLEASE DATE AND INITIAL WHEN FINISHED)

ROUND	1	2	3	4	5	6	7	8	9	10
DATE	04/21/14									
Designer Initials	KF									

* When EPA art is finalized and going to print vendor put an * next to your initials.