



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

August 27, 2025

Erin Romens
Sr. Regulatory Specialist I
Ecolab
Electronic Transmittal: erin.romens@ecolab.com

Subject: PRIA Label Amendment – Add additional public health efficacy claim
Product Name: Tsunami 100
EPA Registration Number: 1677-164
Received Date: 1/3/2025
Action Case Number: 00642159

Dear Erin Romens:

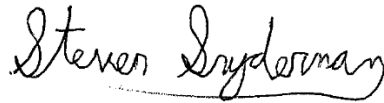
The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. See FIFRA section 2(p)(2). If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process, FIFRA section 12(a)(1)(B). Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Assurance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Kasey Chambers by phone at 202-566-0743, or via email at chambers.katelyn@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Steven Snyderman". The signature is written in a cursive style with a horizontal line underneath the name.

Steven Snyderman, Product Manager 33
Regulatory Management Branch II
Antimicrobials Division (7510M)
Office of Pesticide Programs

Enclosure: Stamped Final Label

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%

Other Ingredients: 73.6%

Total: 100.0%

ACCEPTED

08/27/2025

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 1677-164

**KEEP OUT OF REACH OF CHILDREN
DANGER (I) (PELIGRO)**

[Note to Reviewer: In accordance with 40 CFR 156.68(d), all first aid statements, as prescribed, will
appear on the front panel of the product label.]

(See label for [complete] [additional] [directions for use] [precautionary statements] [and] [first aid])
(Refer to the (MSDS) (SDS) for additional product hazard information)

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CORROSIVE: Causes severe skin burns and eye damage. 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, using tobacco, or using the toilet. Remove any contaminated clothing and wash before re-
use.

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 immediately for treatment advice. Have a
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 EMERGENCY MEDICAL INFORMATION, CALL TOLL-FREE: (1-800-328-0026) (X-XXX-XXX-XXXX)

OUTSIDE NORTH AMERICA, CALL (1-651-222-5352) (X-XXX-XXX-XXXX)

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.
See side/back panel for First Aid

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.

ENVIRONMENTAL HAZARDS: (containers 5 gallons or greater) 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.

Optional:

Used as directed, *Tsunami 100* reduces 99.9% of the pathogens *Escherichia coli* O157:H7 (ATCC 43895, 35150, 43890)*, *Listeria monocytogenes* (ATCC 49594, 19114, 19116)* and *Salmonella enterica* (ATCC 10721, 6962, 13311)* in fruit and vegetable processing waters. *Tsunami 100* may also be used to reduce non-public health spoilage organisms in process water and on surfaces of fruits and vegetables.

(For Exclusive Use with 3D TRASAR Technology)

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 IN FOOD FACILITIES:**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 2.6 - 22.7 fluid ounces per 100 gallons of process water. This will produce about 203 - 1,969 ppm v/v total product and about 30-300 ppm peroxyacetic acid. At this use dilution in process water, *Tsunami 100* will provide a 99.9% reduction against the pathogens *Escherichia coli* O157: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 2.6 - 22.7 fluid ounces per 100 gallons of process water. This will produce about 203 - 1,969 ppm v/v total product and about 30-300 ppm peroxyacetic acid. At this use dilution in process water, *Tsunami 100* will provide a 99.9% reduction against the pathogens *Escherichia coli* O157: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 2.6 - 22.7 fluid ounces per 100 gallons of fresh makeup water added to the system. This will produce about 203 - 1,969 ppm v/v total product and about 30-300 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 NON-PUBLIC HEALTH SPOILAGE ORGANISMS ON FRUIT AND VEGETABLE SURFACES AND IN PROCESS WATERS IN FOOD FACILITIES:

Mix *Tsunami 100* with water either batch-wise or continuously to produce about 33 - 1,969 ppm v/v total product and about 5 - 300 ppm peroxyacetic acid in use solution. This can be accomplished by initially adding *Tsunami 100* at a rate from 0.42 - 22.7 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, arugula
- ◆ *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, and 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, cucurbits, 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, ginger root, rosemary, cilantro, oregano, spearmint, mint family

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 v/v 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 must be at least two times greater than the volume of seeds to be treated. The seeds must 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 IN FOOD FACILITIES:

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 2.6 - 22.7 fluid ounces per 100 gallons of process water. This will produce about 203 – 1,969 ppm v/v total product and about 30-300 ppm peroxyacetic acid. At this use dilution in process water, *Tsunami 100* will provide a 99.9% reduction against the pathogens *Escherichia coli* O157: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 2.6 - 22.7 fluid ounces per 100 gallons of process water. This will produce about 203 – 1,969 ppm v/v total product and about 30-300 ppm peroxyacetic acid. At this use dilution in process water, *Tsunami 100* will provide a 99.9% reduction against the pathogens *Escherichia coli* O157: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 2.6 - 22.7 fluid ounces per 100 gallons of fresh makeup water added to the system. This will produce about 203 – 1,969 ppm v/v total product and about 30-300 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 NON-PUBLIC HEALTH SPOILAGE ORGANISMS IN (INDUSTRIAL) PROCESS WATERS IN FOOD FACILITIES:

Mix *Tsunami 100* with water either batch-wise or continuously to produce about 33 - 1,969 ppm v/v total product and about 5 - 300 ppm peroxyacetic acid in use solution. This can be accomplished by initially adding *Tsunami 100* at a rate from 0.42 - 22.7 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.

TREATMENT OF FRUIT AND VEGETABLE PROCESS WATER SYSTEMS

This product can be used in water or ice that contacts raw or fresh, post-harvest or further processed fruits and vegetables.

Batch, Continuous or Spray System Processes in Food Facilities: Fill vessel containing fruits and vegetables with known amount of water. Ensure that water is circulating in vessel if using the submersion method. Add this product to the water such that the concentration does not exceed 500 ppm residual peroxyacetic acid in accordance with Food Contact Notification #2046, effective July 1, 2020, to reduce spoilage and pathogenic bacteria within the system. The recommended concentration is between 30-300 ppm as peroxyacetic acid (2.6 - 22.7 fl. oz. per 100 gallons of water or 203 – 1,969 ppm v/v total product). The final concentration necessary to accomplish the intended task will vary from plant-to-plant. The fruits and vegetables can be continuously sprayed or submerged (dipped) in the resulting solution. Periodic or continuous additions of this product to maintain the required concentration may be added as necessary. It is also recommended to apply this product during the washing, chilling, or physical cleaning processes, including the roller-spreader, washer or brush washer manifold, dip tank, or sorting processes. Contact time of 90 seconds with the water is recommended to ensure efficacy. A potable water rinse is not required.

SANITIZATION:

Tsunami 100 acid sanitizer is recommended for use on pre-cleaned hard, non-porous surfaces such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment dairies, breweries, wineries, beverage and food processing plants. This product is effective as a sanitizer when solution is prepared in water of up to 500 ppm hardness.

SANITIZING HARD NON-POROUS FOOD CONTACT SURFACES

Prior to use of this product, remove gross soil particles from surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Sanitize clean hard non-porous surfaces with a concentration of 1.0 – 1.84 ounces per 8 gallons of water (977 – 1,797 ppm v/v total product or 149 – 273 ppm peroxyacetic acid) at room temperature. Use immersion, coarse spray or circulation techniques as appropriate to sanitize the surfaces. All surfaces must be exposed to the sanitizing solution for a period of not less than one minute unless otherwise specified by governing sanitary code. Allow surfaces to drain thoroughly and air dry. Do not rinse. This product when used per label directions is effective against *Staphylococcus aureus* (ATCC 6538), *Escherichia coli* (ATCC 11229), and *Salmonella enterica* (ATCC 10708).

CLEANING HARD SURFACE:**CLEANING HARD SURFACE FOOD PROCESSING EQUIPMENT– NO RINSE**

For hard surface cleaning applications, remove gross soil particles from surfaces, then thoroughly clean surfaces with a concentration of 0.10 – 0.18% v/v (977 to 1,797 ppm v/v or 1.0 to 1.84 ounces per 8 gallons of water). Use immersion, coarse spray or circulation techniques as appropriate to clean surfaces. Allow surfaces to drain thoroughly. No rinse necessary.

FINAL BOTTLE AND CLOSURE CLEANING RINSE

Tsunami 100 may be used as a final cleaning rinse for returnable and non-returnable bottles (e.g. glass or PET) and closures not requiring a final food contact surface sanitizing rinse when used at a concentration of 0.10 – 0.18% v/v (977 to 1,797 ppm v/v or 1.0 to 1.84 ounces per 8 gallons of water). Drain thoroughly. No rinse necessary.

CLEANING HARD SURFACE PROCESSING EQUIPMENT– RINSE FOR FOOD CONTACT SURFACES

For hard surface cleaning applications, remove gross soil particles from surfaces, then thoroughly clean surfaces with 2 to 3 ounces product per 3 gallons of water (0.5% to 0.8% v/v). All treated hard non-porous food contact surfaces must be rinsed thoroughly with a potable water rinse.

FLOODING AND PRODUCED WATER IN FOOD FACILITIES:

For Water Flooding operations, add Tsunami 100 initially at 3.75 fluid ounces per 1000 gallons of water (5 ppm 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.

STORAGE & DISPOSAL:**DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL**

PESTICIDE STORAGE: Product must 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:

(For containers 5 gallons or less.) Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Fill container ¼ full with water and recap. Shake for 10 seconds. Drain for 10 seconds after the flow begins to drip. Follow Pesticide Disposal instructions for rinsate 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.

(For containers >5-55 gallons.) 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 ¼ 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.

(300 gallon tote) Verify that the tote is empty. Do not rinse or clean. Seal tote and contact Ecolab for return.

1677-164

8/14/2025

FOR INSTITUTIONAL USE

STRONG OXIDIZING AGENT

EPA Reg. No. 1677-164

EPA Est.: 1677-MN-1 (P), 60156-IL-1 (SI), 1677-CA-2 (R), 1677-TX-1 (D), 1677-IL-2 (J), 1677-GA-1 (M),
1677-WV-1 (V)

Superscript refers to first letter of date code

(Made in United States of America) (Made in USA)

Ecolab Inc.

1 Ecolab Place, St. Paul, MN 55102

This product may be patented | Ce produit peut être breveté | Este producto puede ser patentado:

www.ecolab.com/patents

(Barcode)

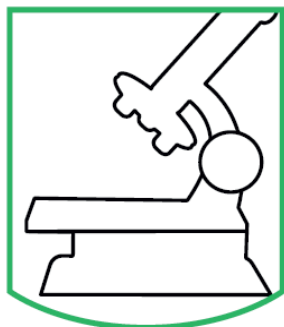
Net Contents:

4 U.S. Gallons (15.1 liters)

50 U.S. Gallons (189 liters)

300 U.S. Gals. (1134 liters)

(Note to reviewer: The following are optional graphics that can be included on label horizontally or vertically. Graphics and text may be printed in additional colors)



(Sanitizer) (Antimicrobial)

ECOLAB®

SECONDARY CONTAINER LABEL

(Note to reviewer: This secondary/use dilution container label will be used only when the product is diluted with no more than 20 oz. product per 16.4 gallon of water, 0.95% v/v.)
When this product is diluted in accordance with the directions on this label, the dilution container must bear the following statements:

Tsunami 100

Concentrate Ingredient Statement

Active Ingredients:

Peroxyacetic acid15.2%

Hydrogen peroxide11.2%

Other Ingredients:73.6%**Total:**100.0%

The product in this container must be diluted at the use rate with no more than 20 oz. product per 16.4 gallon of water, or 0.95% v/v, as directed on the concentrate product label.

Dilution: _____ oz product per _____ gallons of water

KEEP OUT OF REACH OF CHILDREN**PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Causes moderate eye irritation. Harmful in swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

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. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have a 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.

Follow the directions for use listed on the concentrate label when applying this product.

Use solution prepared by end user.

Not for sale or distribution

(Do Not Drink)

EPA Reg. No. 1677-164