



Everywhere It Matters.™



TSUNAMI™ REDUCES
99.9%
**OF DANGEROUS
PATHOGENS**
IN FRUIT AND VEGETABLE
PROCESSING WATERS

TSUNAMI: Oxidizing Agent Program
THE QUICKEST ROUTE
TO THE CLEANEST PRODUCE

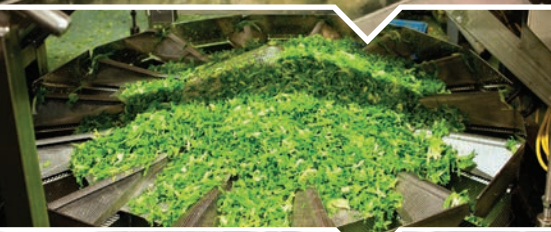


In the produce business, FOOD SAFETY is your first priority.

Tsunami™ 100 is the only EPA-registered antimicrobial water additive product on the market that dramatically reduces pathogens in process water.

*EPA registration #1677-164

Tsunami reduces
99.9%
of Escherichia coli O157:H7;
Listeria monocytogenes
& Salmonella enterica
in fruit and vegetable processing waters



SPECIALIZED PRODUCT – BROAD APPLICATIONS

Tsunami products are specially formulated for the flume systems in fruit and vegetable processing plants, providing kill of a variety of species.

- **Completely soluble** in water – helps eliminate potential off-gassing in heavily soiled systems
- Effective across a **broad pH range** – no need to acidify
- **Taste neutral** – will not impart any odor, taste or discoloration to end products
- **Environmental implications** – will not place extra demands on wastewater systems (e.g. pH excursions and effluent concerns related to chlorine byproducts)

**FRESH CUT
GREENS SHELF
LIFE EXTENSION**

with TSUNAMI 100:

collard
& kale

**7-8
additional days**

mustard
& turnip

**1-2
additional days**



Solution Stories

Tsunami is an easy-to-use, cost-effective solution designed to help maximize operational efficiencies and improve product quality.

1. IMPROVED AIR QUALITY DUE TO INSOLUBILITY IN FLUME WATER

Improved the overall air quality at a Western food processor by entirely eliminating the threat of off-gassing and odor concerns.

2. CONSISTENT DOSAGE FOR MICROBIAL CONTROL

Tsunami has low reactivity with organics and soils in the wash water, maintaining a consistent dosage for microbial control.

Percent Total Available Chlorine or Peracetic Acid Remaining in Water 10 Minutes After Adding 10% (wt.) Cut Vegetable

Vegetable	Total Available Chlorine Remaining	Peracetic Acid Remaining
Cauliflower	75%	93%
Onion	27%	88%
Potato	37%	94%
Carrot	70%	100%
Lettuce	70%	96%
Green Pepper	65%	93%
Celery	75%	93%
Broccoli	70%	93%
Cabbage	70%	87%

3. IMPROVED PRODUCT QUALITY

Thanks to Tsunami™ 200, a food processor drastically reduced yeast, mold, coliform and total plate counts, resulting in significantly improved finished quality of its further processed potatoes.

A SIMPLE, COST-EFFECTIVE SOLUTION

- Tsunami has low reactivity with organics and soils in wash water, maintaining a consistent dosage for microbial control
- Tsunami is ready to feed directly from the shipping container – no pH control, precursor chemicals or on-site generation equipment necessary

IMPROVED OPERATIONAL EFFICIENCIES



PRODUCTIVITY

Reduced labor and water usage due to a cleaner flume



PRODUCT QUALITY

Improved product quality; less spoilage and rejected product



WASTE

Reduced use of ancillary chemicals (e.g. acid, defoamer, waste treatment additives)



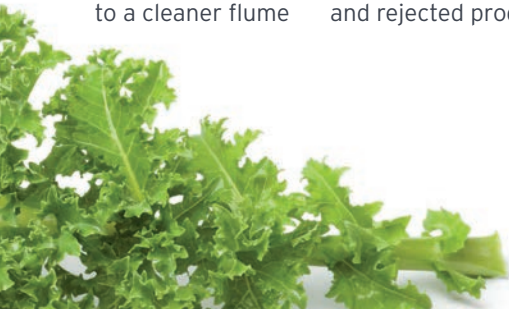
SEAMLESS OPERATIONS:

The Tsunami Control System

The Tsunami Control System is designed to monitor and consistently control Tsunami 100 in wash water systems.

Features and benefits include:

- Proportional control for tighter process control
- Set point or range of control
- 4-20 mA output for data recording
- General alarm relay output
- Flow switch included with alarm and shut down under "loss of flow" condition



Improve product quality, drive efficiencies and reduce water usage when you implement the Tsunami program.



Raise the food safety bar with Tsunami



Product Overview

Tsunami 100:

- Reduces the pathogenic and spoilage microorganisms in flume and wash water systems
- May be applied in all major **transport, storage and washing operations**, flumes, chillers/coolers and wash vessels
- Is the **only EPA-registered antimicrobial water additive product** on the market that reduces pathogens in process water

Tsunami 200 (antimicrobial food additive):

- **Reduces spoilage** organisms including yeast, mold and bacteria on processed fruit and vegetable surfaces, and also reduces significant numbers of pathogenic bacteria on processed fruit and vegetable surfaces
- May be used in a variety of further-processed fruit and vegetable applications
- **Significantly reduces pathogenic and spoilage microorganisms** on processed fruit and vegetable surfaces, including those that can occur via cross contamination

Note: Tsunami 100 and 200 are not for use as hard food contact surface sanitizers.

TO LEARN MORE VISIT OR CALL:
WWW.ECOLAB.COM 1.800.392.3392