ecoH2O
ELECTRICALLY CONVERTED WATER

NOBLES®

Competitive Support Information

ATP Testing

ATP Overview

- **What is ATP?**
  - ATP (Adenosine Triphosphate) is a molecule present in all organic material
  - ATP is present in both living *and* dead organic materials

- **What does the presence of ATP indicate?**
  - Indicates that organic materials are present, includes things like food residue, allergens and/or bacteria.
  - This implies a potential for the surface to harbor and support bacterial growth.

- **Is ATP Testing the best way to measure bacteria levels?**
  - ATP Testing provides the best mix of measurement, cost and speed so it provides a practical way to monitor levels of organic materials.
  - However, if you want to scientifically measure the presence of *live bacteria*, the best testing is still CFU counting which requires more expensive tools and time.

How is ATP Testing Performed?

- **Swab the surface with a special ATP swab**
- **“Crack” the swab to activate and allow prescribed wait time**
- **Place the swab in the ATP device and get measurement**
- **Perform this procedure before and after your cleaning operation to determine effectiveness**
- **Note: readings under 100 implies the surface is “clean”**

ATP Testing: ec-H2O vs Chemical

- **Test Location: Nobles, Holland, MI Manufacturing Plant**
- **Date: 12 / 12 / 08**

Test Method & Set-up	SS-28D ec-H2O	SS-28D Standard
Chemical	None	Leading Neutral Cleaner at recommended scrubbing dilution (1 oz / gal)
Solution Flow Rate	.22 gpm	.30 gpm
Down Pressure	Medium = 80 lb	
Speed	150 ft / min	
Pad Type	Red Scrubbing Pads	

ATP Testing: ec-H2O vs Chemical Results

Test Location	Floor type	Visual Soil Load	ec-H2O			Chemical		
			Before	After	% ATP Reduction	Before	After	% ATP Reduction
L1: Plant Handwashing Station	Ceramic Tile	Medium	135	13	90%	146	23	84%
L2: Warehouse	Sealed Cement	Low	40	4	90%	41	13	68%
L3: Main Aisle to Production Plant, A	VCT	Low	32	3	91%	25	2	92%
L4: Main Aisle to Production Plant, B	VCT	Low	27	4	85%	29	4	86%
L5: Loading Dock	Sealed Cement	High	649	73	89%	545	115	79%
		Average ATP Reduction =			**89%**			**82%**

- **In side-by-side tests, *ec-H2O's Average ATP Reduction was 7% more than a leading daily scrubbing chemical!***

ec-H2O's Advantages

- ***Even with 27% less solution flow*, ec-H2O was 7% more effective at removing organic materials than a leading neutral cleaner!**

- ***Even at the highest soil level location*, ec-H2O was able to make the surface "clean" (<100) in one pass while conventional would have required another cleaning pass!**

- **To equal ec-H20, *Conventional scrubbing would require increased flow rate and/or chemical dilution*, thus:**
  - Increasing water usage
  - Increasing chemical disposal
  - Reducing productivity
  - Increasing the cost to clean