

#### MATERIALS PROVIDED

1. Two vials of lyophilized ATP standards (reconstituted volume sufficient for 100 tests of each standard).

## MATERIALS REQUIRED BUT NOT PROVIDED

- 1. Latex or polyurethane gloves
- 2. Type I deionized water
- 3. Pipettor capable of dispensing volume of 1 mL or 2 mL
- 4. Pipettor capable of dispensing volume of 20 µL

## PROCEDURE

- 1. The user must wear latex or polyurethane gloves to prevent contamination. Remove ATP standard vials from the bag and carefully remove stoppers.
- 2. Reconstitute the contents of each vial with 2 mL of Type I deionized water.
- 3. Recap the vials and mix gently for **10 seconds**.
- 4. Pipette 20 µL of ATP Standard 1 directly onto the sampling pad of an AccuPoint sampler, and follow the manufacturer's instructions for activation. Record RLU results in the chart provided. For a valid statistical comparison, collect a total of 10 readings.
- 5. Pipette 20 μL of ATP Standard 1 directly onto the competitor swab, and follow the manufacturer's instructions for activation. Record RLU results in the chart provided. For a valid statistical comparison, collect a total of 10 readings.
- 6. Repeat steps 4 and 5 using ATP Standard 2.
- 7. Use 20  $\mu L$  of Type I deionized water to establish background RLU level corresponding to 0 ATP.
- 8. Reconstituted ATP standards should be used or discarded within 8 hours.

## ATP CONCENTRATIONS AND ABSOLUTE AMOUNT

When reconstituted in 2 mL water, the standards provided have the following concentrations (expressed in nM, or  $10^{-9}$  moles/L) and absolute quantities (expressed in femtomole, or  $10^{-15}$  mole) of ATP:

Standard	ATP concentration	Quantity of ATP in 20 $\mu$ L standard		
1	1.2 nM	24 femtomole		
2	4.8 nM	96 femtomole		

# ATP Sanitation Monitoring System Evaluation Results

ATP Standard 1 – Low			ATP Standard 2 – High			
Replicate	AccuPoint	Other	Replicate	AccuPoint	Other	
1–1			2–1			
1–2			2–2			
1–3			2–3			
1–4			2–4			
1–5			2–5			
1–6			2–6			
1–7			2–7			
1–8			2–8			
1–9			2–9			
1–10			2–10			
Average			Average			

## **CUSTOMER SERVICE**

Neogen Customer Assistance and Technical Services can be reached by using the contact information on the back of this booklet. Training on this product, and all Neogen test kits, is available.

## **MSDS INFORMATION AVAILABLE**

Material safety data sheets (MSDS) are available for this test kit, and all of Neogen's test kits, on Neogen's website at www.neogen.com, or by calling Neogen at 800/234-5333 or 517/372-9200.

#### WARRANTY

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#### **TESTING KITS AVAILABLE FROM NEOGEN**

#### Natural toxins

• Aflatoxin, DON, ochratoxin, zearalenone, T-2/HT-2 toxins, fumonisin, histamine

#### Foodborne bacteria

• E. coli 0157:H7, Salmonella, Listeria, Listeria monocytogenes, Campylobacter, Staphylococcus aureus, Salmonella enteritidis

#### Sanitation

• ATP, yeast and mold, total plate count, generic *E. coli* and total coliforms, protein residues

#### Food allergens

 Almonds, crustacea, eggs, gliadin, hazelnut, lupine, milk, mustard, peanut, sesame, soy, walnut

#### **Genetic modification**

• CP4 (Roundup Ready<sup>®</sup>)

#### **Ruminant by-products**

Meat and bone meal, feed



#### North America Neogen Headquarters

620 Lesher Place, Lansing, MI 48912 USA 800/234-5333 (USA/Canada) or 517/372-9200 Fax: 517/372-2006 • foodsafety@neogen.com www.neogen.com

> Europe, Middle East and Africa Neogen Europe

The Dairy School, Auchincruive, Ayr KA6 5HW Scotland, UK + 44 (0) 1292 525 600 Fax: + 44 (0) 1292 525 601 info\_uk@neogeneurope.com www.neogeneurope.com Mexico Neogen Latinoamérica

Darwin No. 83, Col. Anzures, México, 11590 D.F. +52 (55) 5254-8235, +52 (55) 5203-0111, +52 (55) 5531-2837 Fax: +52 (55) 5531-1647 informacion@neogenlac.com • www.neogen.com

#### Brazil Neogen do Brasil Rua: Alberto Guizo 760, Distrito Industrial João Narezzi, Indaiatuba – SP Brasil, Cep: 13.347-402 Tel: +55 19 3935.3727 info@neogendobrasil.com.br • www.neogen.com

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# **ATP Testing Standards**

A scientific approach to evaluating ATP sanitation monitoring systems

## DISCUSSION

Adenosine triphosphate (ATP) sanitation monitoring systems express levels of ATP detected on a surface or in a liquid sample in terms of relative light units (RLU). Variation in results between systems can be caused by the reagent formulation used to produce the bioluminescent reaction in the sampling devices and/or in the electronic manipulation of the light signal within the luminometer.

It is important to understand the relationship between ATP and RLU for various sanitation monitoring systems. Simple surface sampling comparisons can be highly variable due to sampling technique, sample type, and possible extreme variations in food residue present in different areas of the same surface.

The ATP testing standards provide a more consistent and scientifically-based method for comparing systems through the pipetting of stable ATP standards directly onto the surface of the sampling device. These instructions describe the procedure for comparing the performance of ATP sanitation monitoring systems. To evaluate the performance of the AccuPoint system against competitor systems with water-based samples, please contact NeogenTechnical Services at 800/234-5333.

## **STORAGE REQUIREMENTS**

Store refrigerated at 2–8°C (35–46°F) to ensure full shelf life (6 months).