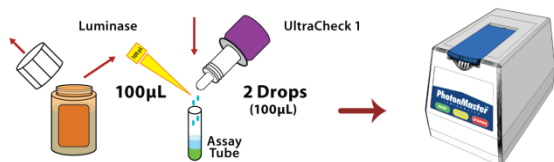


### Step 1 - UltraCheck™ 1 Calibration

Perform one UltraCheck 1 calibration per day or per each set of samples analyzed.



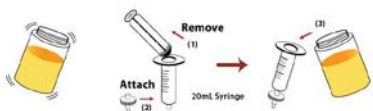
**NOTE:** If  $RLU_{ATP1} \leq 5,000$  using a PhotonMaster or Lumitester C-110, rehydrate a new bottle of Luminase for maximum sensitivity.

### Step 2 - Cellular ATP (cATP™) Analysis

#### 2.1 – SELECT SAMPLE VOLUME

Determine volume and filter sample.

Sample Type	Volume (mL)
Polymers, Admixtures, Personal or Home Care Products	1 (Diluted)*
Metalworking Fluids, Fuel Associated Water, Crude Oil	1 to 5
Finished Fuel, Lubricants**	10 to 20
Oilfield, Oily Brines	10 to 20



\*See note in Test Kit Instructions for sample pre-dilution recommendations.

\*\*When testing finished fuels and lubricants, it is highly recommended that aqueous and organic phases be analyzed separately so as to ensure reliable interpretation. When testing fuels and lubricants, ensure that they meet water content standards (from ASTM, ISO, or otherwise) prior to proceeding with the analysis. Diesel fuels should contain < 500 ppm water and sediment (per ASTM D 975 and D 7467), while jet fuels should contain < 30 ppm water (per ASTM D 1655)

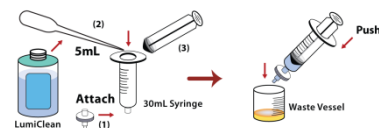
#### 2.2 – FILTRATION

Filter sample.



#### 2.3 – FILTER WASHING

Wash filter of organic contaminants.



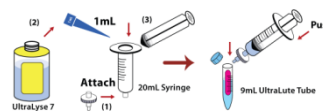
#### 2.4 FILTER DRYING

Dry filter to remove volatile organics.



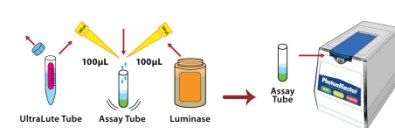
#### 2.5 EXTRACTION

Extract ATP from filter & dilute.



#### 2.6 – ASSAY

Measure ATP concentration.



**NOTE:** If  $RLU_{cATP} \leq 10$  using a PhotonMaster or Lumitester C-110, you are below the low-detection limit.

**NOTE:** If  $RLU_{cATP} \leq 50$  using a PhotonMaster or Lumitester C-110, consider accounting for background ( $RLU_{bg}$ ). See Test Kit Instructions for guidance.

### Calculations

**Total Cellular ATP (cATP) Calculation:**

$$cATP (pg\ ATP/mL) = \frac{RLU_{cATP}}{RLU_{ATP1}} \times \frac{10,000 (pg\ ATP)}{V_{Sample} (mL)}$$

**Microbial Equivalent (ME/mL):**

$$cATP (ME/mL) = cATP (pg\ ATP/mL) \times \frac{1\ ME}{0.001\ pg\ ATP}$$

### Interpretations Guidelines

Application	Good Control (pg cATP/mL)	Preventative Action (pg cATP/mL)	Corrective Action (pg cATP/mL)
Finished Fuels, Conventional Lubricants	< 10	10 to 100	> 100
Polymers, Admixtures, Personal Care, Home Care	< 100	100 to 1,000	> 1,000
Crude Oil, Fuel Associated Water, Oily Brines, Chemical Products, Oilfield Waters	< 100	100 to 1,000	> 1,000
Metalworking Fluids, Fire-Retardant Lubricants	< 1,000	1,000 to 10,000	> 10,000

**NOTE:** Interpretation Guidelines provided for general guidance. For best results, establish your own baseline and control levels.