



QGO-M

Innovative Technology

Rapid Microbial Detection in minutes

APPLICATIONS

- Petroleum
- Fuels & biofuels
- Metalworking fluids
- Lubricants
- Oils
- Jet Fuel

MEASUREMENT BY ATP 2G[®]



RECOMMENDATIONS

Video demonstration and more information about applications of the QGO-M kit are available on www.aqua-tools.com

contact@aqua-tools.com
www.aqua-tools.com

What does ATP 2G[®]?

The **QGO-M 2G[®] refill Kit** is being validated as **ASTM standard E2694** for control of **metalworking fluids and lubricants**, and ASTM standard D7687-11 for **fuel and water mixture and Fuel associated water**.

Quantitative ATP-metry is recommended for **microbial risk monitoring** as a biological tool of product quality assessment.

It's a **biological indicator tool**. It accounts for all living organisms present, isn't influenced by inorganic particulates, provides accurate bacteria counts, and detects bacteria considered to be unculturable. Adenosine triphosphate (ATP) is the energy source of any living organisms. ATP 2G[®] analysis is an **effective tool in monitoring microorganisms in water** and detects **all metabolically active cells** in the sample. This kit is new alternative method from culture plate counting, for more reactivity.

Technology

Adenosine Triphosphate (ATP) is the main energy carrier for all living cells. Thus, measuring the concentration of ATP in living cells enables to quantify the microbial contamination in a sample. The **QGO-M kit** – 2nd generation ATP-metry – allows measuring only intracellular ATP for quantifying living microorganisms in emulsions in 5 minutes. Living microorganisms are retained on a filter and organic compounds are washed off. Microorganisms are then lysed to release their ATP. ATP in contact with luciferin and luciferase reacts to produce photons measured by a luminometer. Results are expressed in RLU and then converted either in pg ATP/mL or Equivalent Microorganisms/mL using an external **standard calibrated ATP solution, Ultracheck™ 1**, to provide reliable quantitative results over time.

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Key benefits

Monitoring microbial contamination in organic fluids enables to:

- **control and handle microbial contamination** in real-time, from raw material to finished product (ex. : from crude oil to refined fuel),
- **early detect and prevent related damages** (microbial corrosion, products and equipments degradations, clogging and fouling),
- **verify, optimize, validate and monitor** effectiveness of cleaning procedures,
- **carry out in real time** quality controls, in fuels, metalworking fluids and lubricants,
- **localize critical zones** for bacteria proliferation and identify the origins of microbial contamination,
- **reduce the number of time-consuming** culture analyses.

Create your Microbial ToolBox

Reference method as culture plate count for water/fluid microbial control are directly link to the operator appreciation and quality of culture media used - variation of CFU count are more than 30 % for the same of culture media produced by different companies.

Strong points

- **Quick measurement** in minutes
- **Quantitative sample** transfer ensures accuracy
- **Higher volume analyzed** – More representative
- **Filtration step** to concentrate microorganisms and eliminate extracellular ATP
- **Superior chemistry of reagents** – higher ATP extract recovery
- **Optimized protocols** ensure minimal interferences (TDS, TSS, Oil, Biocides)
- **Liquid-stable ATP standard** (UltraCheck 1) converts RLU to quantitative concentration

Added value ATP 2G[®]

- **Account greatest number of microorganisms**
- **In an acceptable time frame**
- **At a reasonable cost**
- **More reliable, robust**
- **More reproducible and relevant**

This means that **you can underestimate true level of microorganisms** in your sample – Microorganisms slow growing or **injured active** cells will be missed by the operator. Underestimation of microbial contamination could lead you to unappropriated and non-efficiency action plans.

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